Vol. I

TRANSCRIPT OF RECORD

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, [redacted]

No. [redacted] 1

THE UNITED FUEL GAS COMPANY, A CORPORATION, AND WARFIELD NATURAL GAS COMPANY, A CORPORATION, APPELLANTS,

vs.

THE RAILROAD COMMISSION OF KENTUCKY, FRANK E. BURNS, ET AL., ETC., AND FRANK E. DAUGHERTY, ATTORNEY GENERAL OF KENTUCKY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF KENTUCKY

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[fol. 1] **IN UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF KENTUCKY**

No. 3436

BILL OF COMPLAINT

To the Honorable A. M. J. Cochran, Judge of the District Court of the United States for the Eastern District of Kentucky

United Fuel Gas Company, a corporation, and Warfield Natural Gas Company, a corporation, Plaintiffs, bring this their Bill of Complaint against the Railroad Commission of Kentucky, Frank N. Burns, Oscar Vest and Isaac Wilder, members of and constituting said The Railroad Commission, and Thomas B. McGregor, Attorney General of the State of Kentucky, Defendants, and thereupon the plaintiffs complain and say:

I

The plaintiff United Fuel Gas Company is a corporation created and existing under the laws of the State of West Virginia, with its principal office in the City of Charleston, in said State, and the plaintiff Warfield Natural Gas Company is a corporation created and existing under the laws of the State of Kentucky, with its principal office in the City of Catlettsburg, in said State of Kentucky, and in the Eastern District of said State.

The defendant, The Railroad Commission, is a body created and existing under the Constitution and statutes of the Commonwealth of Kentucky, and maintains an office, as it is required by said statutes [fol. 2] to do, at the seat of government of said State, in the City of Frankfort, and in the Eastern District of said State; the defendants Frank N. Burns, Oscar Vest and Isaac Wilder constitute said The Railroad Commission and are the duly elected, qualified and acting members thereof. Each of said three members is a citizen of the State of Kentucky. The said Frank N. Burns is a resident of the City of Paducah, McCracken County, in the Western District of said State. Oscar Vest is a resident of Carrollton, Carroll County, in the Eastern District of said State; and Isaac Wilder is a resident of Booneville, Owsley County, in the Eastern District of said State. The defendant Thomas B. McGregor is a citizen and resident of the State of Kentucky, is the duly elected, qualified and acting Attorney General thereof, and is a resident of Frankfort, in the Eastern District of said State.

II

The court's jurisdiction herein arises under the Constitution and laws of the United States, particularly under the Fourteenth Amendment of said Constitution, and the amount in controversy is in excess of $3,000.00.

This action is of a civil nature, and its purpose is to enjoin the enforcement of certain orders of the defendant The Railroad Commission relating to the furnishing and supplying of natural gas to the inhabitants of the Cities of Ashland, Catlettsburg and Louisa, in the State of Kentucky, by the plaintiffs, one of said orders being directed to and against the plaintiff United Fuel Gas Company, then engaged in supplying such natural gas service, and the other thereof being directed to and against the plaintiff Warfield Natural Gas Company, as the successor of its coplaintiff in the furnishing of such service. Both said orders are claimed to be in violation of the Four-[fol. 3] teenth Amendment of the Constitution of the United States (as well as in violation of the Constitution of Kentucky), and this action involves the right of the plaintiffs to have established and fixed for rate-making purposes the fair and reasonable value of their property devoted to the public use as of the present time, the determination of a fair and reasonable return upon said value, and the right of plaintiffs to withdraw from said service, the defendant The Railroad Commission having entered the orders complained of without any ascertainment or finding of such property value and having failed and refused to give any consideration whatever to competent evidence of such value, introduced before it by these plaintiffs.

III

The plaintiff United Fuel Gas Company is, and has been for a number of years last past, engaged, among other things, in the business of mining for, producing, transporting, marketing and distributing, to the purchasers and consumers thereof, natural gas. For such purpose it owns and holds lands, leasehold estates, pipe lines, compressor stations, tools, machinery and other equipment necessary for the conduct of such business, the greater part of which lands and other property are located in the State of West Virginia, and all physical property so owned by said plaintiff United Fuel Gas Company not located in the said State of West Virginia is, and has been since the 28th day of June, 1923, located in the State of Ohio. Previous to the latter part of the month of June, 1923, said plaintiff United Fuel Gas Company was also the owner of certain property located in the State of Kentucky, consisting in part of natural gas pipe lines, regulators, meters and other appliances used in the transportation of natural gas and the distribution thereof to purchasers [fol. 4] and consumers in the Cities of Ashland, Catlettsburg and Louisa, in said State of Kentucky.

The plaintiff Warfield Natural Gas Company was organized under and in conformity to the laws of the State of Kentucky, on or about the 8th day of February, 1922, as a subsidiary of the plaintiff United Fuel Gas Company, and said plaintiff United Fuel Gas Company is at this time, and has been at all times since the incorporation of said Warfield Natural Gas Company, the owner of all of the shares of the capital stock of said Warfield Natural Gas Company, except three shares of said capital stock held by each of the five members of its Board of Directors.

On the 28th day of June, 1923, the plaintiff United Fuel Gas Company, by deed of that date, sold, transferred and conveyed to the plaintiff Warfield Natural Gas Company all of the property of every character then owned by the plaintiff United Fuel Gas Company situate in the State of Kentucky, including in said conveyance so much of the natural gas pipe lines as were within the State of Kentucky at that time, previously owned and operated by said United Fuel Gas Company for the transportation of natural gas from the points of its production in the State of West Virginia to points in the State of Kentucky and beyond, and including also all of the mains, regulators, meters, lands, buildings, offices and equipment used at that time and previously by said United Fuel Gas Company in furnishing and distributing natural gas to consumers thereof in said Cities of Ashland, Catlettsburg, and Louisa, in the State of Kentucky.

After the execution and delivery of said conveyance the plaintiff United Fuel Gas Company withdrew from, and ceased to engage in the business formerly conducted by it in the State of Kentucky and ceased to conduct any business whatsoever in said last mentioned State; cancelled, in due form, the appointments previously made by it of any and all agents upon whom process against it might be served, [fol. 5] gave notice of such cancellation to the Secretary of State of said State and complied with all the formalities of law necessary for the purpose of withdrawing from, and ceasing to engage in business in said State of Kentucky, and has not since at any time engaged in any business whatsoever in said State.

The plaintiff Warfield Natural Gas Company accepted the conveyance so made to it, as above set forth, of all the property of said United Fuel Gas Company situate in the State of Kentucky, and has at all times since conducted the business formerly conducted by said United Fuel Gas Company in said State of Kentucky, including that of furnishing natural gas to consumers and users thereof in said Cities of Ashland, Catlettsburg and Louisa, and said plaintiff Warfield Natural Gas Company is now the owner of said property so conveyed to it and of any additions made thereto since the date of said conveyance, and is at the present time engaged in supplying natural gas to consumers thereof residing in each of said three cities.

All of the natural gas which the plaintiff Warfield Natural Gas Company has at any time supplied for consumption in any one of said three Kentucky cities, and all of the natural gas supplied for a number of years previous to said conveyance of June 28, 1923 by the plaintiff United Fuel Gas Company to consumers in any one of said three cities, was produced from lands located in the State of West Virginia, neither of the plaintiffs having available for such purpose any other source of supply, and contemporaneously with the execution and delivery of said conveyance of June 28, 1923, the plaintiffs entered into a contract between themselves, by which the plaintiff United Fuel Gas Company agreed to sell and the plaintiff Warfield Natural Gas Company agreed to purchase, at a point near Kenova, in the State of West Virginia, near the boundary line be- [fol. 6] tween the States of West Virginia and Kentucky, such

quantities of natural gas as might be demanded by said Warfield Natural Gas Company for sale to its customers, to the extent that said United Fuel Gas Company might be able to furnish the same, taking into consideration its obligations to supply gas elsewhere and for other purposes, at a price and upon terms fully set forth in said contract and hereinafter referred to.

IV

The plaintiff United Fuel Gas Company commenced the furnishing of natural gas to consumers thereof in the Cities of Ashland, Catlettsburg and Louisa, in the State of Kentucky, in the month of September, 1909, having purchased at or about that time the natural gas distribution system in each of said cities formerly owned and operated therein under municipal franchises authorizing the use of the streets for such purpose granted by the councils of said several cities to the predecessors in ownership of said plants of said United Fuel Gas Company, but the plaintiffs aver that the franchise in each of said cities was for a definite term of years all of which have ended, said franchise from the City of Ashland having expired on the 3rd day of January, 1918, that from the City of Catlettsburg on the 21st day of January, 1918, and that from the City of Louisa on the 1st day of July, 1918. After the expiration of said several franchises, the plaintiff United Fuel Gas Company continued, nevertheless, to maintain its pipes and other appliances in the streets of said cities and to furnish natural gas as theretofore to the inhabitants thereof, until the sale of said plants to the plaintiff Warfield Natural Gas Company, as hereinbefore set forth, since which sale the plaintiff Warfield Natural Gas Company has continued to maintain said pipes and appliances in said streets and to furnish natural gas service to the inhabitants of said cities, and is furnish-[fol. 7] ing such service at the present time. Neither of the plaintiffs, however, has any franchise or other contract from or with any one of said three cities, and the plaintiff Warfield Natural Gas Company is occupying the streets and alleys thereof with its mains and appliances for the service of natural gas, merely by sufferance of said three cities and without any legal right so to do, and without, as plaintiffs are advised, any legal obligation to continue such service.

V

The plaintiffs aver that the General Assembly of the Commonwealth of Kentucky, at its regular session in the year 1920, enacted a pretended statute, known as Chapter 61 of the Acts of the General Assembly of 1920, entitled

"An Act to repeal and reenact Chapter eighteen of the Acts of nineteen and sixteen, which is an act prescribing the duties and powers of the Railroad Commission with reference to express companies, steamboats and steamboat companies, telegraph companies and telephone companies, and all boats and other water craft pro-

pelled by the use of oil, gasoline, or other means,' so as to prescribe the duties and powers of the Railroad Commission with reference to express companies, steamboats and steamboat companies, telegraph companies and telephone companies, natural gas companies and natural gas transportation companies, and all boats and other water craft propelled by use of oil, gasoline or other means."

Said pretended statute contains a number of provisions not embraced within said title and relating not to the duties and powers of the Railroad Commission, to which subject the title of said Act is limited, but attempting to prescribe duties to be performed by [fol 8] and to impose obligations upon persons and corporations engaged in the business of distributing, furnishing or selling natural gas or performing any service in connection therewith, as well as other matters not referred to in the title of said Act, in violation of Section 51 of the Constitution of the Commonwealth of Kentucky.

Section 23 of said pretended statute is in the following language:

"If the franchise of any public service company embraced in this act shall have expired, and the service is continued without obtaining a new franchise the said public service company shall be subject to the jurisdiction and authority of the Railroad Commission, and shall not withdraw its service from any municipality, county or community without first obtaining the permission of the said Railroad Commission so long as it remains in business in this Commonwealth, or any part thereof."

Other provisions of said pretended statute purport to grant to said The Railroad Commission power and authority to investage, upon complaint, whether any company engaged in the distribution, furnishing or sale of natural gas is collecting or receiving extortionate rates, and upon a finding that extortionate rates are being collected or charged, to fix a just and reasonable rate for the furnishing or sale of natural gas thereafter furnished or sold, and providing that any company, its officers, agents or employees, charging, collecting or receiving a greater or higher rate than that so fixed by said The Railroad Commission shall be guilty of extortion, and upon conviction shall be fined for the first offense any sum not to exceed $1,000.00, for the second offense any sum not to exceed $2,000.00, and for the third and succeeding convictions any sum not to exceed $5,000.00.

[fol 9] Still other sections of said pretended statute provide, entirely aside from the powers and duties of The Railroad Commission with respect thereto, that it shall be unlawful for any company mentioned in the Act, which includes companies engaged in the furnishing and sale of natural gas, to charge, collect or receive more than a just or reasonable rate for the distribution, furnishing or sale of natural gas or to give any undue or unreasonable preference or advantage to any particular person or locality, and provide for prosecutions and fines for violation of the Act.

A duly certified copy of said enactment is filed herewith as a part hereof, marked Exhibit "A".

VI

On or about the 28th day of April, 1920, the City of Catlettsburg, a municipal corporation of said State of Kentucky, acting under the supposed authority of said pretended statute, filed a complaint with The Railroad Commission, the defendant herein, against the plaintiff United Fuel Gas Company, in which complaint it was alleged that the rates then being charged by the plaintiff United Fuel Gas Company, defendant in said proceeding, for natural gas furnished to consumers thereof in said City of Catlettsburg for domestic use was unreasonable, unjust and extortionate, and praying that an order be entered by said Commission establishing a reduced rate to be thereafter charged.

Thereupon the Cities of Louisa and Ashland filed separate intervening petitions with said The Railroad Commission, making similar allegations and praying similar relief against the defendant in said proceeding with respect to the price charged for natural gas for domestic use in said cities, respectively.

At the time of the filing of said several complaints and for some time theretofore, the rate being charged by the defendant in said [fol. 10] proceeding, being the plaintiff United Fuel Gas Company herein, for natural gas for what is termed "domestic use", being for household and similar consumption, was 40 cents per thousand cubic feet with a discount of 5 cents per thousand cubic feet for payment on or before the 10th day of the month for the gas consumed during the preceding month, said rate being the same in all of said three cities. A somewhat less rate was being charged to manufacturers for what is known as industrial consumption, due to the fact that such purchasers use larger quantities and use the same with more uniformity throughout the season. The said complaints and proceedings thereon, however, related only to the gas furnished for what is known as domestic use.

The plaintiff United Fuel Gas Company, as defendant in said proceeding, filed its motion, in due time, to dismiss said complaints and each of them, upon the ground that said Commission was without jurisdiction to hear and determine the matters arising upon said complaints and was without jurisdiction to grant the relief prayed, or any part thereof, and the defendant therein, without waiving its said motion, filed its answer to each of said complaints, denying the material allegations thereof and expressly denying that the rates being charged by it in any of said cities were unjust, unreasonable, extortionate or discriminatory. In said answers it was admitted that the rates so being charged in said Kentucky cities were somewhat higher than the rates being charged at the same time by the defendant in said proceeding in certain localities in the State of West Virginia, but it was averred, in explanation of said last mentioned fact, that the rates being charged at that time in said localities in the State of West Virginia were not voluntarily fixed by said defendant,

but under the compulsion of the Public Service Commission of West Virginia, the body having rate-making authority in that State. It was further averred, in defense, that the rates then being charged in [fol. 11] said sections of West Virginia were unjust and unreasonably low and afforded no criterion as to what would be a just and reasonable rate in said Cities of Ashland, Catlettsburg and Louisa.

Testimony was introduced before said The Railroad Commission on behalf of both the complainant cities and the defendant gas company, and thereafter said Commission, on the 18th day of January, 1922, made and entered an order in the words and figures following:

"Kentucky Railroad Commission, Frankfort, Kentucky, January 18, 1922

City of Catlettsburg, Kentucky, City of Ashland, Kentucky, & City of Louisa, Kentucky, Plaintiffs,

vs

United Fuel Gas Company, Defendant

Order

This cause involving the rates charged for natural gas in the cities or towns of Ashland, Catlettsburg and Louisa, Kentucky, coming on to be heard, and after the evidence, exhibits, briefs and arguments of counsel have been heard and considered, it is the opinion of the Commission, and it so adjudges and orders, that any rate or rates that may be charged after the effective date of this order in excess of Eighty Per Cent (80%) of the present rates now being charged and collected in said cities or towns shall be, and the same is now adjudged to be extortionate and excessive, and the defendant, United Fuel Gas Company, is ordered and directed to charge, collect and receive such rates for natural gas in said cities or towns after February 11th, 1922 as shall not exceed Eighty Per Cent (80%) of the rates now being charged for such gas service, and the defendant is [fol. 12] ordered and directed to file its schedules and put into effect, rates not in excess of those provided herein, in conformity with this order, on or before February 11th, 1922.

It is further provided that this order shall not interfere with any discount arrangement now existing providing for prompt payment of bills by the patrons of said defendant company.

Copy. Attest:
(Signed) W. W. Jesse, Secretary Kentucky Railroad Commission."

Promptly after the entry of said final order of the 18th day of January, 1922, to-wit, on or about the 24th day of January, 1922, the plaintiff United Fuel Gas Company, defendant in said proceeding, filed with said The Railroad Commission its petition for a rehearing of the issues therein, praying that said final order of January 18,

1922, be revoked and set aside. In said petition for rehearing it was averred that said order of the Commission deprived petitioner of its liberty and of its property without due process of law, and denied to it the equal protection of the laws, contrary to the Fourteenth Amendment to the Constitution of the United States, in that said order prescribed a maximum rate for natural gas in each of said three cities which would not afford a fair or adequate return upon the value of petitioner's property used and useful in such service and which maximum rate so prescribed was less than the reasonable value of the service rendered, and averred that said order was contrary to the law and the evidence.

In said petition for rehearing it was further averred, in the third paragraph thereof, that said order was indefinite and ambiguous on its face in two particulars, one of which was as to whether the said order meant that the maximum rate which might be charged was [fol. 13] 80% of the existing gross rate of 40 cents per thousand cubic feet, or 80% of the existing net rate of 35 cents per thousand cubic feet, and as to this it was stated in said petition that in the absence of any supplemental or explanatory order, it would be assumed by petitioner that the intent of said order of January 18, 1922, was to prescribe a maximum rate of 32 cents per thousand cubic feet (being 80% of the gross rate), from which sum the petitioner might deduct 2 cents or less per thousand cubic feet in order to induce prompt payment of its bills; and secondly, it was pointed out that said order upon its face did not show whether it was intended to apply to all natural gas sold by petitioner in said cities, whether for domestic or industrial use, and was not limited to the rate for gas for domestic use which was the subject matter of the proceeding, and as to this it was stated that petitioner would assume, in the absence of any supplemental or explanatory order, that said order of January 18, 1922, was not intended to operate upon the rates charged for industrial service.

The Railroad Commission denied petitioner's application for a rehearing and entered no further or explanatory order in said proceeding. After the denial of said petition for rehearing, the defendant in said proceeding, being the plaintiff United Fuel Gas Company, reduced the rates thereafter charged by it to consumers of gas for domestic purposes in said Cities of Ashland, Catlettsburg and Louisa to 80% of the previous rate, to-wit, a rate of 32 cents per thousand cubic feet with a discount of 1 cent per thousand for prompt payment, and has at all times since charged said reduced rate last mentioned to all of its consumers classified as domestic in said three cities, until it sold its property in the State of Kentucky to the plaintiff Warfield Natural Gas Company on the 28th day of June, 1923, and withdrew from engaging in business in said State of Kentucky. [fol. 14] A complete copy of the record of said proceeding before said The Railroad Commission, including the pleadings, testimony and exhibits, which resulted in said final order of January 18, 1922, and including also the petition for rehearing thereof above referred to, is filed herewith as a part hereof, marked Exhibit "B."

VII

The plaintiffs now aver that the cost of producing and furnishing natural gas to consumers thereof has, during the past seven years, increased tremendously, due not only to the increased cost of labor, materials and supplies common to industrial enterprises in general, but also in particular to causes peculiar to the natural gas industry, the chief of which are the constant decline in the average quantity of gas obtained from new wells as compared with those drilled earlier, and the constant decline in the rock pressure of the wells, necessitating additional compression of the gas at various points along the pipe lines in order to transport it to the place of consumption, and as a result of these conditions the rates customarily charged to consumers of natural gas throughout the parts of the country in which it is used, have greatly increased.

The gas-producing property of these plaintiffs is located in what is known to the natural gas industry as the Appalachian Field, and the greatest producing area of said field is in the State of West Virginia, in which State more natural gas is produced than in any other of the United States, while the States of Ohio and Pennsylvania, in the order stated, are the chief consumers of the gas produced in said field, and in said States of Ohio and Pennsylvania, due to the conditions above stated, the average or customary rates charged to consumers of such gas have, during the past three years, increased considerably and necessarily, corresponding to the exhaustion of the fields and consequent increased cost of production per unit.

The plaintiff United Fuel Gas Company is the owner of either the gas in fee or of leasehold estates authorizing it to produce and take away all of the gas obtainable from more than 600,000 acres of land, all situate in the State of West Virginia, but it owns no gas lands or gas-producing property in any other State.

The plaintiff Warfield Natural Gas Company is the owner of certain gas wells and gas leaseholds covering about 10,000 acres of land in the County of Martin, in the State of Kentucky, but all of the gas produced by the plaintiff Warfield Natural Gas Company from wells owned by it, except a comparatively small part sold for local consumption near the points of production, is sold under contract, at a point in Martin County, Kentucky, to either the Louisville Gas & Electric Company or the Central Kentucky Natural Gas Company, and no part of the gas produced by said Warfield Natural Gas Company is available for supplying consumers in the Cities of Ashland, Catlettsburg or Louisa.

Of the gas produced and available for sale by the United Fuel Gas Company during the past several years and at the present time, approximately two-thirds is sold by the plaintiff United Fuel Gas Company to other gas companies, exclusive of Warfield Natural Gas Company, which purchasers, by means of their own pipe lines, transport the same varying distances to the places of consumption in other parts of West Virginia and in the adjoining States of Ohio, Pennsylvania and Kentucky, the remaining one-third of such gas

(including that sold to Warfield Natural Gas Company) being sold by the plaintiff United Fuel Gas Company to consumers thereof in the southern part of West Virginia and the southeastern part of Ohio, and by the plaintiff Warfield Natural Gas Company in the northeastern part of Kentucky.

[fol 16] The natural gas output from the producing property owned at this time by the plaintiff Warfield Natural Gas Company (being the producing property conveyed to said plaintiff by its co-plaintiff as hereinbefore set forth) is small, compared with the output from the gas-producing property which has been owned for a number of years and still remains in the ownership of the plaintiff United Fuel Gas Company, such output from the property so conveyed to the plaintiff Warfield Natural Gas Company having been, during the past several years, only about 1.5 per cent of the output from the entire property at this time owned by both plaintiffs.

The plaintiffs have caused an inventory and appraisal to be made of all of the natural gas property owned by each of them, used for the purpose of producing, transporting and distributing natural gas, including gas estates in lands, pipe lines, compressor stations, telephone and telegraph lines, measuring stations, meters, regulators and other equipment used and useful in the production, transportation and distribution of such natural gas (but excluding any property owned by either of them not so used and useful), and the plaintiffs aver that the fair and reasonable present value of such property of the plaintiff United Fuel Gas Company is at least the sum of $35,000,000.00, and of the plaintiff Warfield Natural Gas Company at least the sum of $5,000,000.00. The minimum value just alleged of the property of the Warfield Natural Gas Company includes its gas well, leasehold estates, etc., constituting its producing property not used in the furnishing of natural gas to consumers in the Cities of Ashland, Catlettsburg or Louisa, and the plaintiffs aver that the present fair and reasonable value of that part of the property of said Warfield Natural Gas Company used and useful in the furnishing of natural gas to consumers in the Cities of Ashland, Catlettsburg and Louisa, and which consists merely of the distribution plants [fol 17] in said cities and of a share of the pipe lines through which gas is brought to said cities proportionate to the use made of said pipe lines for that purpose, is approximately $750,000.00, but inasmuch as the property of each of the plaintiffs used and useful in the production, distribution and sale of natural gas was assembled and constructed as one plant, owned and operated by the plaintiff United Fuel Gas Company previous to the conveyance by it to the plaintiff Warfield Natural Gas Company, the plaintiffs caused said inventory and appraisal to be made of the entire property owned by both plaintiffs, and the plaintiffs aver that the combined present fair and reasonable value of their said properties is at least the sum of $40,000,000.00, exclusive entirely of the value of any property not used in the production, transportation, sale and distribution of natural gas, such as the oil-producing property of the plaintiff United Fuel Gas Company.

The present value of the properties so owned and used by the plaintiffs is in excess of the actual investment therein of the plaintiffs or either of them, due to the fact that certain parts of said property have greatly enhanced in value. The actual cost of said combined property of both plaintiffs immediately before the transfer of a part thereof to the plaintiff Warfield Natural Gas Company, was approximately the sum of $27 000 000.00, and such investment cost represents, in the case of gas-producing wells and lands, only the actual cash consideration paid for the leasehold or other estate in the gas and the actual cost of drilling gas wells thereon and connecting the same with the transportation line. But the plaintiffs aver that the cost of or investment in said gas-producing property is greatly less than the actual value thereof, because of the fact that by hazardous explorations and expenditures made by the plaintiff United Fuel Gas Company it was fortunate and successful in developing one of the most valuable natural gas fields in the State of West Virginia, [fol. 18] and plaintiffs expressly aver that due to the intrinsic value of the natural gas pools so discovered, developed and acquired, the natural gas producing property, consisting merely of the leasehold and other estates in lands held for the production of natural gas, the natural gas wells and lines connecting such wells to the transportation system and the material in said wells, now owned by the plaintiffs and used in their business of producing, transporting and marketing natural gas, has a present market or salable value, in bulk, of at least $40 000 000.00, and the remaining property of the plaintiffs, used and useful in the transportation, sale and distribution of such natural gas, whether considered as of the time when it is owned in part by each of them or considered as a whole immediately previous to the conveyance of a part thereof to the Warfield Natural Gas Company, and consisting of the pipe lines, compressor stations and distributing systems, has a fair present value of at least $20 000 000.00, and the sum which would be required to reproduce said plant and equipment (other than the leasehold and other estates in lands held for the production of natural gas, wells and well connecting lines), as of this time, minus any and all accrued depreciation thereon, is at least the sum of $20 500 000.00.

The plaintiffs aver (and it is common knowledge) that the business of mining for and producing natural gas is one of exceptional hazard and that the salient matter of the investment therein is exhausted in its use within a comparatively short period of time. Therefore, the investment in the acquisition and development of natural gas lands and in the facilities for the transportation of natural gas to points of consumption, must be amortized within the life of the producing fields; that a rate of return upon the value of such property used in the public service which does not take account of these factors is unjust, unreasonable and confiscatory, that a rate of return of 6 or 7 per cent. over and above all necessary al- [fol. 19] lowances for depreciation, depletion and amortization, is inadequate. The plaintiffs are informed and advised, and upon such information and advice and upon the opinion and belief of their managing officials and directors charge the fact to be, that any

rate of return upon the value of their property used and useful in the public service of supplying natural gas to consumers thereof, less than a rate of 16 per centum per annum upon such value to cover profit, depreciation, depletion and amortization, is unreasonably low, and that the property used in such service sustains depreciation and depletion, which should be charged against earnings, equal to at least 6 per centum annually of the investment in or value of such property.

Plaintiffs further show that the combined value, for rate-making purposes, of their respective properties used and useful in producing, transporting and distributing natural gas to purchasers and consumers thereof, is at least the sum of $80,000,000.00; that the value of such property, for rate-making purposes, of the plaintiff United Fuel Gas Company is at least the sum of $65,000,000.00, and that of the plaintiff Warfield Natural Gas Company at least the sum of $7,000,000.00; that of said combined value about 72½ per cent. is represented by production property and compressor stations, 21½ per cent. in transportation, main and lateral lines, and 6 per cent. in distribution plants; and that, in order to obtain a return of 16 per cent. upon the combined value of said properties over and above operating expenses, to cover profit, depreciation, depletion and amortization, plaintiffs would be obliged to obtain annual earnings of $9,600,000.00, but the plaintiffs aver that their actual earnings and expenses from the sale of natural gas from said property during the past three years were as follows:

[fol. 29] Year	Gross earnings	Operating expenses	Net earnings
1920	$7,502,173.11	$3,795,756.91	$3,706,416.51
1921	6,363,520.14	3,306,332.71	3,057,187.43
1922	7,217,436.91	3,545,676.00	3,671,760.91

Plaintiffs desire to admit, in connection with the foregoing statement of its actual earnings and expenses during the past three years, that in each of said years the plaintiff United Fuel Gas Company sold considerable quantities of the gas produced by it to two other corporations which are the owners of all the capital stock of said United Fuel Gas Company, and the gas so sold to said stockholding companies was at an arbitrary rate made for the convenience of the parties concerned; but, in this connection, plaintiffs aver that if said earning statements were adjusted by charging gas delivered to said two companies owning the capital stock of the plaintiff United Fuel Gas Company, at the same rate as that obtained from other wholesale purchasers furnished at the same cost and under similar conditions as that furnished to said stockholding companies, then the annual gross and net earnings from said combined properties of the plaintiffs would be increased considerably less than $2,000,000.00 annually for each of said three years.

Plaintiffs further show that, based upon their experience and the best available information of the output of gas obtainable during the next succeeding several years from said combined properties, it will be necessary, in order to obtain a rate of 16 per centum annually

upon the value of said combined properties, to cover profit, depreciation, depletion and amortization, that plaintiffs receive, as the production cost per thousand cubic feet, including as a part of such cost said 16 per centum return, the sum of 23 cents, as the transportation cost, the sum of 5 cents, and as to such part of said annual output as may be distributed to domestic consumers, an additional dis-
[fol. 21] tribution cost of 15 cents per thousand cubic feet, or a total of 43 cents per thousand cubic feet for the gas distributed to domestic consumers. Said calculations are based upon an estimated annual output during the next several years of 45,000,000 M cubic feet, of which quantity it is estimated that 6,000,000 M cubic feet will be distributed to consumers for domestic use, 8,000,000 M cubic feet will be sold to industrial consumers with comparatively little or negligible distribution expense, 20,000,000 M cubic feet will be sold at wholesale to other companies without distribution expense, and the remaining 1,000,000 M cubic feet will be sold in the gas fields, with neglible transportation expense and no distribution expense.

The foregoing estimate of 43 cents per thousand cubic feet as the total cost of furnishing natural gas for domestic consumption, which term "cost" is used in this connection as including, in addition to operating expense, a return of 16 per cent. upon the value of the property to cover profit, depreciation, depletion and amortization, is the average cost of all the natural gas which will be distributed to domestic consumers of the plaintiffs in the several localities in which they furnish gas for domestic consumption, and the plaintiffs aver that the gas now being distributed by plaintiff Warfield Natural Gas Company in the Cities of Ashland, Catlettsburg and Louisa is and necessarily has to be, transported a greater distance than the average distance which all natural gas furnished by plaintiffs to domestic consumers is transported, so that the cost, as used in this connection, of furnishing and supplying natural gas for domestic use in said Cities of Ashland, Catlettsburg and Louisa is at least as great, and is in fact somewhat greater, than is the average cost to the plaintiffs of furnishing natural gas to all of their domestic consumers.

[fol. 22] VIII

The plaintiffs now show that at or about the time of the conveyance hereinbefore referred to from United Fuel Gas Company to the Warfield Natural Gas Company, the plaintiffs entered into a contract with each other, under the terms of which United Fuel Gas Company agreed to sell to the Warfield Natural Gas Company, to the extent that the former might have the same available, such quantities of natural gas as the Warfield Natural Gas Company might desire to purchase for the supply of its customers in the State of Kentucky, at a price during the year commencing July 1, 1922, of 30 cents per thousand cubic feet, and at a price thereafter to be determined by agreement, or upon failure to agree, by arbitration in the manner provided by said contract. While the relation between the plaintiffs is such, one being a subsidiary of the other, that the terms of a contract between them might perhaps be dictated by one of the parties,

yet the plaintiffs aver that the price of 30 cents per thousand cubic feet provided in said contract to be paid by the purchasing company to the selling company during the year commencing July 1, 1923, was and is a reasonable and moderate price, and the same does not exceed the reasonable value of such gas at the point of delivery thereof; and further, that in order for the plaintiff Warfield Natural Gas Company to obtain a rate of return of 16 per cent., over and above operating cost, upon the present value of the facilities and equipment used and necessary for the transportation of said gas from the point of delivery and distribute the same to its domestic consumers in said Cities of Ashland, Catlettsburg and Louisa, such 16 per cent. per annum to include profit, depreciation and amortization, it would be necessary that it receive a rate of approximately 45 cents per thousand cubic feet, being 15 cents per thousand in excess [fol. 23] of the price paid by it to the plaintiff United Fuel Gas Company.

IX

At or about the time of said conveyance from the plaintiff United Fuel Gas Company to the plaintiff Warfield Natural Gas Company, to-wit, on or about the 28th day of June, 1923, the Warfield Natural Gas Company caused to be printed, published and posted a schedule of the rates which it would charge for natural gas at all points previously supplied in the State of Kentucky by United Fuel Gas Company, which schedule provided for a rate for natural gas for domestic use, supplied in the Cities of Ashland, Catlettsburg and Louisa, of 45 cents per thousand cubic feet, subject to a discount of 5 cents per thousand for payment on or before the 10th day of the month for the gas consumed in the preceding month, to be effective on the 1st day of August, 1923, and said printed schedule was, more than thirty days previous to the 1st day of August, 1923, filed with the defendant The Railroad Commission, in the form prescribed by said Commission, and likewise filed, within the same period, a copy of said schedule with the city clerk or recorder of each of said three cities, and, within the same period, posted a copy thereof, at each of the offices of said Warfield Natural Gas Company where bills are collected.

A copy of said schedule as published, posted and filed is filed herewith as a part hereof, marked Exhibit "C".

X

Upon the publishing and filing of said schedule of rates by the plaintiff Warfield Natural Gas Company as alleged in the last paragraph, the respective city councils of said three cities adopted [fol. 24] resolutions to contest the legality of the rate so published, and on the 11th day of July, 1923, the plaintiff United Fuel Gas Company, through its attorneys, appeared before the defendant The Railroad Commission and filed its motion in writing with said Commission asking that it revoke and set aside its order above mentioned of the 18th day of January, 1922, and in support of

said motion said United Fuel Gas Company caused it to appear to said Commission that the conveyance above mentioned of June 28, 1923, from said United Fuel Gas Company to said Warfield Natural Gas Company had been made, and that the latter Company had filed with the Commission, posted and published the schedule of rates which it would charge commencing on the 1st day of August, 1923, but said Commission did not at that time take any action with reference to said motion.

Thereupon the plaintiff Warfield Natural Gas Company, on or about the 29th day of August, 1923, filed with the defendant The Railroad Commission its petition, setting up the facts hereinbefore mentioned with reference to its acquisition of the distributing systems in the State of Kentucky formerly operated by United Fuel Gas Company, the facts with reference to the contract between it and said United Fuel Gas Company for the purchase of gas, the facts hereinbefore stated with reference to the printing, filing and posting of the schedule of rates of said Warfield Natural Gas Company, averring that said rates appearing in said schedule would be, on and after August 1, 1923, until changed in some lawful way, the lawful rates to be charged in said cities, averring that said rate so proposed to be charged as shown by said schedule was a just and moderate rate, and that any less would be unjust, unreasonable and confiscatory, and in particular, that the reduced rate prescribed by the order of said Commission of January 18, 1922, if operative [fol. 25] upon said petitioner, which was denied, would be unjust, unreasonable and confiscatory; and averring other facts and circumstances showing, or tending to show, the reasonableness of said rate of 45 cents gross or 40 cents net, and praying in said petition that said Commission enter an order vacating and setting aside its order of January 18, 1922, in the proceeding in which said United Fuel Gas Company was defendant, and, in the alternative, that said petition might be regarded as the application of the Warfield Natural Gas Company, under Section 23 of Chapter 61 of the Acts of the General Assembly of Kentucky for the year 1920, above referred to, for permission to the petitioner from said Commission to withdraw its service from each of said municipalities.

Said cities of Ashland, Catlettsburg and Louisa were made defendants to said petition and were given due notice of the filing thereof. Said cities appeared before said Commission and answered said petition and a hearing was had thereon. In their answers to said petition said cities claimed that the order entered by said Commission on January 18, 1922, in the proceeding in which said United Fuel Gas Company was the defendant, was binding upon not only the United Fuel Gas Company, but the plaintiff Warfield Natural Gas Company, as its successor; that any rate charged by Warfield Natural Gas Company in excess of that prescribed by said order of January 18, 1922, was unlawful; that these plaintiffs had violated said order, the true meaning of which order, as claimed by them, limited the charge to 80% of the previous net rate of 35 cents, instead of 80% of the gross rate of 40 cents, and demanded reparation to the con-

sumers on such account. Said cities also, by way of cross-petition, averred that numerous persons residing in said cities were desirous of obtaining natural gas service in new buildings constructed by them, that these plaintiffs refused to extend their service lines for the [fol. 26] supplying of new consumers, and praying that the Commission enter an order requiring such new connections and such service furnished to new applicants therefor.

The Commission heard the testimony offered by both parties, and considered the matters arising upon the proceeding so instituted by Warfield Natural Gas Company in connection with those arising upon the motion of said United Fuel Gas Company to vacate said order against it — of January 18, 1922.

The affirmative matter set up in the pleadings by said cities before said Comission was duly traversed by said Warfield Natural Gas Company, and denial was made by said Company of the right of said cities to the relief prayed by them. Said Warfield Natural Gas Company, in connection with its application to said Commission for permission to withdraw service from said cities, expressly claimed that in making such application it did not admit the power of such Commission to withhold such consent, or that said Commission might lawfully prevent its withdrawal.

On the 11th day of December, 1923, the defendant The Railroad Commission entered a final order, which is, as appears upon the face thereof, the order of said Commission in both the proceedings above referred to—that is to say, in the proceeding upon the motion of United Fuel Gas Company to vacate and set aside said order of the Commission of January 18, 1922, and the proceeding instituted by the petition of Warfield Natural Gas Company.

In connection with said order of December 11, 1923, said Commission filed as a part of the record a written opinion, and a duly certified copy of both said order and opinion is filed herewith as a part hereof, marked Exhibit "D."

The substance of said order of December 11, 1923, briefly stated, is:

[fol. 27] 1. That the petition of the Warfield Natural Gas Company is dismissed, and the motion of United Fuel Gas Company to vacate the order of January 18, 1922, is denied.

2. "That the attempt made by the petitioners" to increase the rates for gas furnished in said cities "by offering to file a new schedule of rates for gas service in said cities is held for naught and of no force and effect and such increase is refused and denied."

3. That the rates fixed by the order of January 18, 1922, should continue to be the maximum rates to domestic consumers in said cities, to-wit, 80% of the rates in effect prior to January 18, 1922, and said order of January 18, 1922, is, for the first time, interpreted by said Commission in said order of December 11, 1923, as fixing a maximum rate of 32 cents per thousand cubic feet, less a discount of 4 cents per thousand for prompt payment, or a net rate of 28 cents.

4. That "the petitioners" (meaning these plaintiffs), and each of them, furnish and supply to all consumers and applicants for gas

service in said cities, adequate and sufficient facilities, and that any applicant for gas service should be supplied within a reasonable time after application.

5. That all consumers in said cities who had paid in excess of the rate established — January 18, 1922, as at present interpreted by the Commission, were entitled to reparation or refund of all such excess paid, and that upon the filing of a claim therefor by such consumers, reparation would be awarded.

A certified copy of said order of December 11, 1923, was mailed by the Secretary of said The Railroad Commission to an agent of the plaintiff Warfield Natural Gas Company on or about the 12th day [fol. 28] of December, 1923, and was received by said agent on the 13th day of December, 1923.

Under the provisions of Section 14 of the pretended statute hereinbefore mentioned, being Chapter 61 of the Acts of the General Assembly of Kentucky for the year 1920, it is provided that an order of said Commission, such as that of December 11, 1923, shall be entered on the records of said Commission, a copy thereof mailed to an officer or agent of the company affected thereby, and that such order shall be in full force and effect at the expiration of ten days thereafter. It is further provided by said section that should any company against which any such order is made, or any officer, agent or employee of such company, charge, collect or receive a greater or higher rate than that made or fixed by such order, then said company or said officer, agent or employee shall be deemed guilty of extortion, and upon conviction, fined as in said Act provided.

A complete copy of the record of said proceeding before said Commission, including the pleadings, testimony and exhibits, which resulted in said final order of December 11, 1923, is filed herewith as a part hereof, marked Exhibit "E."

XI

Under the provisions of said pretended statute of the General Assembly of Kentucky in the year 1920, it is made the duty of the Attorney General of the Commonwealth of Kentucky to represent The Railroad Commission in proceedings brought by it to enforce its orders and in the prosecution of persons and corporations charged with the violation of such orders, and these plaintiffs are informed and believe, and upon such information and belief charge, that the defendant Thomas B. McGregor, now the Attorney General of said [fol. 29] Commonwealth of Kentucky, will, unless restrained and inhibited as hereinafter prayed, undertake to enforce the orders of said Commission herein complained of and to prosecute these plaintiffs under the provisions of said pretended statute, if the plaintiffs should fail to obey said orders.

XII

During the month of July, 1923, after the plaintiff Warfield Natural Gas Company had published and filed its schedule of rates to be

effective on August 1, 1923, and because of the controversy as to the lawfulness of said rates so proposed to be charged, occasioned by the municipal authorities of said cities announcing their intention to contest the validity of said rates, said plaintiff Warfield Natural Gas Company made public announcement, by newspaper advertisement and otherwise, to all of its customers in said three cities, that pending the settlement of said controversy, it would accept tentative payment for gas furnished either at the increased rate which it had filed to be effective August 1, 1923, or at the rate immediately previous which was charged by its predecessor, United Fuel Gas Company, but that in any case all consumers would eventually be charged at the same rate, so that if such controversy should be determined favorably to said Company, it would then charge the additional sum to those who had paid at the lower rate, and in the event said controversy was determined adversely to said company, it would refund to those who had paid at the increased rate any sum which might be finally determined as excessive.

At about the same time said Warafield Natural Gas Company refused, and has at all times since refused, to extend its mains in any one of said three cities or to make connections with its mains for [fol. 30] supplying gas to new buildings in any of said three cities not previously supplied by said Warfield Natural Gas Company or its predecessor. Said refusal to make such extensions and new connections was because of the fact that said Warfield Natural Gas Company was under no obligation, by franchise or otherwise, to continue to supply natural gas in any one of said three cities and desired and intended to withdraw service from each of them unless it were permitted to charge the rate proposed by it, which proposed rate was and is as low as it were possible for it to be and at the same time be compensatory, for efficient and adequate service.

XIII

The plaintiffs now charge

1. That said pretended statute, being Chapter 61 of the Acts of the General Assembly of Kentucky for the year 1920, is unlawful and void because contrary to Section 51 of the Constitution of the State of Kentucky, in that it relates to more than one subject and contains provisions not expressed in its title, particularly, provisions relating to the business of furnishing, distributing and selling of natural gas, and providing in Section 23 that if the franchise of any public service company, including those engaged in furnishing, distributing or selling natural gas, shall have expired, then such company may not withdraw its service from any municipality, county or community without first obtaining the permission of said The Railroad Commission, so long as it remains in business in said State or any part thereof.

2. That the order of the defendant The Railroad Commission entered on the 18th day of January, 1922, in the proceeding instituted by the City of Catlettsburg against the plaintiff United Fuel Gas

Company, and the order of said defendant The Railroad Commission [fol. 31] made and entered on the 11th day of December, 1923, upon the motion of said United Fuel Gas Company to vacate and set aside said former order of January 18, 1922, and upon the petition of the plaintiff Warfield Natural Gas Company to vacate said former order, or, in the alternative, to permit it to withdraw service from the cities of Ashland, Catlettsburg and Louisa, are each null and void; that said order of January 18, 1922, deprived and deprives the plaintiff United Fuel Gas Company of its liberty and its property without due and deprives both the plaintiff United Fuel Gas Company and the process of law, and that said order of December 11, 1923, deprived plaintiff Warfield Natural Gas Company of their respective liberty and property without due process of law, that said order of January 18, 1923, operates to deny to the plaintiff United Fuel Gas Company, a person, although artificial, then within the jurisdiction of the State of Kentucky, the equal protection of the laws, and that said order of December 11, 1923, denies to the plaintiff Warfield Natural Gas Company, a person, although artificial, then and now within the jurisdiction of said State of Kentucky, the equal protection of the laws, all contrary to the Constitution of the United States and particularly the Fourteenth Amendment thereof.

3. That said order of January 18, 1922, fixed a maximum rate which might be charged for natural gas supplied by the plaintiff United Fuel Gas Company in said Cities of Ashland, Catlettsburg and Louisa, which maximum was so low that compliance with said order required said plaintiff to furnish natural gas service in said cities at less than the reasonable value of such service and required the use of said plaintiff's property in said service without just compensation and at a less rate of return upon the value of said property than the customary interest upon secured obligations of 6 per cent. over and above operating expenses and a sufficient allowance to cover [fol. 32] the deterioration, depreciation and depletion of such property, necessarily resulting from such use; that said order of the defendant The Railroad Commission of December 11, 1923, fixed a maximum rate which might be charged by either of these plaintiffs for natural gas service in said three cities, which order, if complied with, would require the plaintiff Warfield Natural Gas Company to supply such natural gas service at a rate less than the reasonable value thereof, and requires the use of the property of said plaintiff in such service without allowing a rate of return upon the reasonable value of such property equal to the customary rate of 6 per cent. per annum upon secured obligations, over and above necessary operating expenses and a sufficient sum to cover the necessary deterioration and depreciation of its property from such use, all contrary to said Fourteenth Amendment of the Constitution of the United States.

4. Said order of December 11, 1923, made and entered by said defendant The Railroad Commission, likewise deprives the plaintiff Warfield Natural Gas Company, and upon its face purports also to deprive the plaintiff United Fuel Gas Company, of their respective liberty without due process of law, contrary to said Fourteenth

Amendment, in that it requires these plaintiffs and each of them to construct and provide, at their expense, extensions and additional facilities for the supplying of natural gas to the inhabitants of said cities, thereby denying to the plaintiffs the right of discontinuing said business and ceasing to supply said inhabitants with natural gas service.

Said last mentioned order of the defendant Commission also deprives, or will, if executed, deprive these plaintiffs of their property without due process of law, contrary to said Amendment, in so far [fol. 33] as it provides that all consumers of gas in said cities who have paid any rate in excess of that provided by said order of January 18, 1922, as interpreted by said later order of December 11, 1923, are entitled to a refund of such excess so paid, and providing that such fund will be ordered merely upon the filing of a claim therefor.

5. That both said orders of January 18, 1922, and December 11, 1923, deprive the plaintiff United Fuel Gas Company of its property without due process of law, and deny to it the equal protection of the laws, and said order of December 11, 1923, deprives both these plaintiffs of their property without due process of law and denies to them the equal protection of the laws, because said orders fix a maximum rate which may be charged for natural gas service by the plaintiffs or one of them without first ascertaining or finding any facts upon which such order or orders might lawfully be founded. Said defendant The Railroad Commission made and entered each of said orders without first ascertaining or finding the reasonable value of the property of the plaintiffs or either of them, or what rate of return upon such value was a lawful or proper rate, and said orders and each of them were actually made and entered by said Commission without any attempt to ascertain the value of such property or any part thereof and without any reference to said value or of a reasonable return thereon.

In this connection, plaintiffs aver that said Commission did not announce or file any opinion accompanying its order of January 18, 1922, and that it did not announce or file any opinion accompanying its said order of December 11, 1923, other than that exhibited with this bill.

[fol. 34] XIV

The plaintiffs aver that the plaintiff Warfield Natural Gas Company is at this time supplying more than sixty-eight hundred (6800) consumers of natural gas in said three cities; that in the regular and ordinary course of business the meters used in supplying such service are read monthly, near the end of each month, and bills are payable monthly, a discount being allowed for payment on or before the 10th day of the month; that within the next few days bills will be due and payable for gas supplied during the present month of December; that under the order of said Commission of December 11, 1923, any charge made by plaintiff Warfield Natural Gas Company for such gas furnished during the present and succeeding months above the maxi-

mum provided in said order, would be a penal offense under said pretended statute, and if the plaintiff Warfield Natural Gas Company should charge to all of its consumers of gas in said three cities a rate in excess of that prescribed by said order of December 11, 1923, it would be subject to fines under the terms of said pretended statute, aggregating millions of dollars for each month for which such higher rate might be charged; that said last mentioned order of the defendant Commission likewise requires the plaintiffs to continue furnishing said natural gas and denies to them the right to withdraw from such service; that immediate and irreparable injury, loss and damage will result to the plaintiffs unless the defendants are, by the temporary restraining order of this court, prevented from enforcing the order of the defendant Commission of January 18, 1922, and the order of December 11, 1923.

Wherefore these plaintiffs being without adequate remedy in the premises, save in a court of equity, pray

[fol. 35] (a) That a writ of subpœna may issue against each of the above named defendants, and that they be required to answer this bill, but not under oath, answer under oath being expressly waived;

(b) That the order of the defendant The Railroad Commission, entered on the 18th day of January, 1922, in the proceeding above mentioned as then pending before said Commission, entitled City of Catlettsburg, et al. vs. United Fuel Gas Company, be adjudged by decree herein to be unconstitutional and void;

(c) That the order of said defendant The Railroad Commission, entered on the 11th day of December, 1923, upon the motion of the plaintiff United Fuel Gas Company to vacate and set aside said previous order of the Defendant Commission of the 18th day of January, 1922, and in the supplemental proceeding above referred to upon the petition of the plaintiff Warfield Natural Gas Company, be likewise adjudged by decree herein as unconstitutional and void;

(d) That the rate for natural gas service, filed and published by the plaintiff Warfield Natural Gas Company as hereinbefore set forth, to be effective as of August 1, 1923, to-wit: the rate of 45 cents per thousand cubic feet, subject to a discount of 5 cents per thousand for prompt payment, be adjudged by decree herein to have been the lawful rate chargeable for such gas for domestic use in the Cities of Ashland, Catlettsburg and Louisa, in the State of Kentucky, since the 1st day of August, 1923, and at the present time;

(e) That the defendants and each of them, their agents and employees, and all persons acting under their direction and control or under the direction and control of any of them, be enjoined from enforcing or attempting to enforce, in any manner, said order of the [fol. 36] defendant The Railroad Commission of January 18, 1922, and said order of said defendant of December 11, 1923, or any part of either of said orders, and that said defendants, their agents and employees, be likewise enjoined from prosecuting or attempting to

prosecute the plaintiffs, or either of them, for disobedience to either of said orders of said defendant Commission, and that said defendants, their agents and employees, be likewise enjoined from hindering or molesting the plaintiff Warfield Natural Gas Company in charging the rate filed and published by the plaintiff Warfield Natural Gas Company for natural gas for domestic use in said Cities of Ashland, Catlettsburg and Louisa, and that, pending the final hearing and determination of this cause, an interlocutory injunction may be granted to the plaintiffs against the defendants herein, in accordance with the foregoing prayer, and that upon said final hearing such injunction be perpetuated.

(f) That the right of the plaintiffs to cease furnishing natural gas in said Cities of Ashland, Catlettsburg and Louisa and to withdraw from such service, may be adjudicated and decreed to them.

(g) To the end that immediate and irreparable loss, damage and injury may not result to the plaintiffs pending the hearing of their motion and prayer for an interlocutory injunction, that a temporary restraining order may be made and entered by this court, inhibiting the defendants and each of them, their agents and employees, from enforcing or attempting to enforce either of said orders of the defendant The Railroad Commission, and from instituting or attempting to institute any proceeding, suit or action against the plaintiffs or either of them, for failure to comply with said orders of said defendant Commission, or either of said orders, and that the plaintiffs may [fols. 37 & 38] have such other, further and general relief as in equity may be just or as the nature of this cause may require.

United Fuel Gas Company, by H. A. Wallace, Vice President.
Warfield Natural Gas Company, by R. A. Robertson, Vice President.
S. S. Willis, Ashland, Kentucky, R. G. Altizer, Charleston, W. Va., Solicitors for Plaintiffs.

Sworn to by H. A. Wallace et al. Jurats omitted in printing.

[fol. 39] EXHIBIT "A" TO COMPLAINT

An Act to repeal and re-enact Chapter 18 of the Acts of 1916 which is an act "prescribing the duties and powers of the Railroad Commission with reference to express companies, steamboats and steamboat companies, telegraph companies and telephone companies, and all boats and other water craft propelled by the use of oil, gasoline or other means," so as to prescribe the duties and powers of the Railroad Commission with reference to express companies, steamboats and steamboat companies, telegraph companies and telephone companies, natural gas companies and natural gas transportation companies, and all boats and other water craft propelled by the use of oil, gasoline or other means.

Be it enacted by the General Assembly of the Commonwealth of Kentucky:

Sec. 1 That chapter 18 of the Acts of 1916, which is now sections 201-e-1 to 201-e-22, inclusive, of chapter 13A of the Kentucky Statutes, Carroll's 1918 edition, be, and the same is hereby repealed, amended and re-enacted so that the same will read as follows:

The provisions of this act shall apply to express companies, telephone companies, telegraph companies, natural gas companies and natural gas transportation companies, steamboats and steamboat companies, and all boats and other water craft propelled by the use of oil, gasoline or other means, whether incorporated or unincorporated and doing business in this state in the transportation of goods for hire or compensation between points in this state, or in receiving or transmission of messages between points in this state, or in the distribution, furnishing or sale of natural gas as a fuel [fol. 40] for domestic or industrial purposes, but the provisions of this act shall not embrace the operation of telephone companies within any city where the rates charged for the transmission of messages and other service may be regulated by local authority, or the operation of natural gas companies in any city where the rates are now or may be regulated by local authority; nor shall it embrace any telephone company that is operated only in three or less counties, except for the purpose of making joint rates, nor any telephone company which has a capital stock of less than two thousand dollars, if incorporated, or if unincorporated tangible property of less value than two thousand dollars except for the purpose of making joint rates, nor shall the provisions of this act apply to any telephone or gas company operating in any municipality under a franchise or contract fixing or regulating the rates which said company may charge, or the terms and conditions under which such company is operating, and every express company, telephone company, telegraph company, natural gas company, gas transportion company, steamboats and steamboat company, shall furnish reasonably adequate service and facilities and the charges made for any service rendered or to be rendered in the transportation of messages by telephone or telegraph, or in the distribution, furnishing or sale of natural gas by any company, or for any service in connection therewith, shall be just and reasonable, and every unjust and unreasonable charge for such service, and every unreasonable rule, regulation or practice is hereby prohibited and declared to be unlawful.

Sec. 2 Every express company shall print and publish in legible form schedules or tariffs showing all the fares, rates and charges for the transportation of property and any service in connection therewith between different points on its route in the State of [fol. 41] Kentucky. Such schedule shall be plainly printed and published in a legible form and a copy for the use of the public shall be kept in every depot, station or place where property is received for transportation convenient for public inspection, and a copy shall be filed by each of such companies with the Railroad Commission.

Every telephone or telegraph company shall print and publish in legible form schedules of its rates of toll showing all rates and

charges for the transmission of any message from any point where a message is received for transmission in this state to any other point in the state where such message is to be delivered, and to subscribers for telephone boxes, and a copy of such schedule shall be kept by the agent of such company at every place where any such message may be received for transmission and such schedule shall be open to the public at all hours when messages are so received for transmission, and a copy of said schedule shall be filed with the Railroad Commission. Every company distributing, furnishing or selling natural gas in this state shall print and publish, in legible form, a schedule showing the rates charged for natural gas furnished or sold by it in the different cities of this state and a copy of such schedule shall be filed with the Railroad Commission and with the city clerk or recorder of each city so furnished, and such schedule shall at all times be opened to public inspection.

Sec. 3. No change shall be made in the rate, tolls, fares or charges which have been filed and published by any of said companies except after not less than thirty days' notice to the Railroad Commission and to the public, published as aforesaid, and any changes to be made in the schedule then in force and the date of said proposed effective change shall be shown by new schedules or supplements thereto printed and published in legible form. The back of said schedule shall indicate the page on which the proposed change or [fol 42] changes may be found and the particular change or changes shall be indicated by a star or stars opposite thereto, provided that the Railroad Commission may, in its discretion and for good cause shown enter an order of record allowing changes in the schedule upon less time, or modify the requirements of this act in respect to publicly posting notices and filing schedules either in particular instances or by a general order applicable to special or particular circumstances or conditions.

Sec. 4. It shall be unlawful for any such company to demand, collect or receive a greater or less compensation for any service rendered than is specified in such printed schedule and the rates, fares, tolls and charges specified therein shall be the lawful rates, fares, tolls and charges until same are changed as provided by law. The commission may prescribe such changes in the form in which the schedules are issued by any such company as may be found expedient.

Sec. 5. Whenever a duty or obligation is imposed upon any company mentioned in this act by law which relates to the rates, tolls, fares, classification, charges, service, rules, regulations or practice of any such company, or whenever a complaint is filed alleging a violation of this or any other law relative to such company, the same shall be under the supervision and regulation of the Railroad Commission which shall have authority, after due notice and hearing as provided by law, to issue an order fixing just and reasonable rules or regulations or practice to be thereafter followed, and to prescribe the rate or toll to be charged or service to be performed thereafter to relieve any undue or unreasonable discrimination, prejudice or ad-

vantage found to exist in violation of law; and such rates, classifications, charges, fares, tolls, rules, regulations or practice so ordered [fol. 43] shall be substituted for the rates, classifications, charges, fares, rules, regulations or practice then in force by any such company, and power is by this act conferred upon said commission to make and put into effect joint rates.

Sec. 6. Nothing in this act shall be construed to prevent special contract rates, tolls, fares or charges, but all such rates, tolls, fares or charges shall be open to all persons engaged in any like business or under similar circumstances and conditions, and shall be subject to the provisions of this act as to the printing and filing of the same, and all such rates shall be under the supervision and regulations of the Railroad Commission.

Sec. 7. Nothing in this act shall prevent such companies from handling property or messages free or at reduced rates for the United States, the state or county, or any municipality thereof, or for charitable purposes, or to and from fairs or expositions for exhibition thereat; or the private property or messages for their own exclusive use or consumption of the officers, agents, employes, attorneys, physicians or surgeons and their families of companies subject to the provisions of the act, nor prevent the exchange of passes or franks with any other company or companies subject to the provisions of this act or any other common carrier or carriers so that by said exchange all said companies may give to officers, agents, employes, attorneys, physicians or surgeons of said other companies the same privilege given to their own officers, agents, employes, attorneys, physicians, surgeons and their families. The term "employes" as used in this paragraph shall include furloughed, pensioned and superannuated employes, persons who have become disabled or infirm in the service of any such company, and the remains of persons killed in the employment of any such company, and persons [fol. 44] traveling for the purpose of entering the service of any such company and the term "families" as used in this paragraph, and also the term "families" of persons killed as aforesaid and the widows during widowhood and the minor children during minority of persons who have died while in the service of any such company.

Sec. 8. Except as provided in the preceding section it shall be unlawful for any such company to give free transportation of property within this state to any person, firm, company or corporation, or to transport property within this state for any other compensation than that prescribed by its schedules; and no telephone or telegraph company, except as provided in the preceding section, shall grant to any person the right to transmit messages over the lines of any such company free of charge, or at a reduced rate not common to the public.

Sec. 9. Any such company violating the provisions of this act as to free transportation of property, or transportation at reduced rates not common to the public, or in permitting the transmission of mes-

sages over the telephone or telegraph lines free of charge, or at a reduced rate not common to the public, or for the distributing or furnishing of natural gas at reduced rates not common to the public, shall be deemed guilty of a misdemeanor, and upon conviction, shall be fined in any sum not to exceed one thousand dollars.

Sec. 10. If any company mentioned in this act shall charge, collect or receive more than a just or reasonable rate of toll or compensation for the transportation of property in the state or for the transmission of any message, or for the distribution, furnishing or sale of natural gas, it shall be deemed guilty of extortion. If any company mentioned in this act shall directly or indirectly, by any special rate, rebate, drawback or other device, charge, demand, collect or re- [fol. 45] ceive from any person a greater or less compensation for any service rendered in the transportation of property than it charges, demands, collects or receives from any other persons for doing for him a like and contemporaneous service in the transportation of a like kind of traffic, or if any such company shall directly or indirectly, by any special rate, rebate, drawback or other device, charge, demand, collect or receive from any person a greater or less compensation for any service rendered in the transmission of any messages, than it charges, demands, collects or receives from any person for doing for him a like and contemporaneous service in the transmission of messages, or if any such company shall directly or indirectly, by any special rate, rebate, drawback, or at all, demand, collect or receive from any person a greater or less compensation for any service rendered in the distribution, furnishing or sale of natural gas, than it charges, demands, collects or receives from any other person for a like and contemporaneous service, except as hereinbefore provided, it shall be deemed guilty of an unjust discrimination.

Sec. 11. It shall be unlawful for any such company to make or give any undue or unreasonable preference or advantage to any particular person or locality or any particular description of traffic in any respect whatever, or to subject any particular person, company, firm, corporation or locality or any particular description of traffic to any undue or unreasonable prejudice or disadvantage, or to make or give any undue or unreasonable preference or advantage to any particular person or locality in the transmission of messages, or to subject any particular person, firm, company, corporation or locality to any undue or unreasonable prejudice or disadvantage in the distribution, furnishing or sale of natural gas, or to subject any such person [fol. 46] or locality to any undue or unreasonable prejudice or disadvantage.

Section 12. Any such company guilty of extortion or unjust discrimination, or of giving to any person or locality or to any description of traffic undue or unreasonable preference or advantage shall upon conviction be fined for the first offense in any sum not to exceed five hundred dollars and upon a second conviction in any sum not to exceed one thousand dollars and upon a third conviction in any sum not to exceed two thousand dollars.

The circuit court of any county into or through which the line of any such corporation or company may run and the Franklin Circuit Court, shall have jurisdiction of the offense which may be prosecuted by indictment or by penal action in the name of the Commonwealth upon information filed by the Railroad Commission, and such company shall also be liable in damages to the party aggrieved in the amount of damages sustained together with the cost of suit and reasonable attorneys' fees to be fixed by the court. Indictments under this section shall be made only upon the recommendation or request of the Railroad Commission filed in the court having jurisdiction of the offense, and all prosecutions and actions under this law shall be commenced within two years after the offense shall have been committed or the cause of action shall have accrued.

Sec. 13. If any express company shall charge or receive any greater compensation in the aggregate for the transportation of property of like kind under substantially similar circumstances and condition for a shorter than for a longer distance over the same line in the same direction, the shorter being included within the longer distance, or if any telephone or telegraph company shall charge or receive for [fol. 47] transmitting messages any greater compensation in the aggregate under substantially similar circumstances and conditions for a shorter than for a longer distance over the same line in the same direction, the shorter being included within the longer distance, such company shall for each offense be guilty of a misdemeanor and fined not less than one hundred dollars nor more than five hundred dollars, to be recovered by indictment in the Franklin Circuit Court, or the circuit court of any county into or through which the company so violating runs or carries on its business. Upon complaint made to the Railroad Commission that any such company has violated the provisions of this section, it shall be the duty of the commission to investigate the grounds of complaint and if, after such investigation, the commission deems it proper to exonerate such company from the operations of the provisions of this section an order in writing to that effect shall be made by the commission and a copy thereof shall be delivered to the complainant and a copy to such company, and the same shall be published as a part of the report of the commission, and after such order such company shall not be prosecuted or fined on account of the complaint made. If the commission, after investigation, fails to exonerate such company from the operation of the provisions of this section, an order in writing to that effect shall be made by the commission and a copy thereof delivered to the complainant and a copy to such company, and the same shall be published as a part of the report of the commission, and after such order it shall be the duty of the commission to furnish a statement of the facts, together with a copy of its order, to the grand jury of any county the circuit court of which has jurisdiction, in order that such company may be indicted for the offense and the commission shall use proper efforts to see that such company is indicted and prosecuted.

[fol. 48] Sec. 14. When complaint shall be made to the Railroad Commission accusing any express company, telephone company or

telegraph company, or natural gas company, mentioned in this act of charging or collecting or receiving extortionate rates for the transportation of property or for the transmission of messages, or for telephone boxes, over its line or lines in this Commonwealth or for the distribution, furnishing or sale of natural gas in this Commonwealth, or when said Commission shall receive information or have reason to believe that such rate or rates of toll or tolls are being charged, collected or received, it shall be the duty of said commission to hear and determine the matter as speedily as possible, provided, that as to any telephone company said complaint shall be signed by at least five of its bona fide patrons. Said commission shall give the company complained of not less than ten days' notice by letter mailed to an officer or agent of said company, stating the time and place of the hearing of same, also the nature of the complaint or matter to be investigated, and shall hear such statements, arguments or evidence offered by the parties as the commission may deem relevant, and should the commission determine that the company is or has been guilty of extortion, said commission shall make and fix a just and reasonable rate, toll or compensation which such company may charge, collect or receive for like services thereafter rendered. The rate, toll or compensation so fixed by the commission shall be entered and be an order on the record book of their office signed by the commission, and a copy thereof mailed to an officer or agent of the company affected thereby, and shall be in full force and effect at the expiration of ten days thereafter, and may be revoked or modified by an order likewise entered of record. And should such company or any officer, agent or employe, thereof, charge, collect or receive [fol. 49] a greater or higher rate, toll or compensation for like services thereafter rendered than made and fixed by said commission, as herein provided, said company and said officer, agent or employe shall be deemed guilty of extortion and, upon conviction shall be fined for the first offense in any sum not to exceed one thousand dollars, and upon a second conviction in any sum not to exceed two thousand dollars and for a third and succeeding convictions in any sum not to exceed five thousand dollars.

The circuit court of any county into or through which the line or lines of such company runs, and the Franklin Circuit Court shall have jurisdiction of the offense against such company offending, and the circuit court of any county where such offense may be committed by such officer, agent or employe shall have jurisdiction in all prosecutions against said officer, agent or employe, and all such prosecutions under this act shall be by indictment or penal action, and shall be commenced within two years after the offense shall have been committed. In making any investigation provided for in this section, said commission may, when deemed necessary, take the deposition of witnesses before an examiner or notary public whose fees shall be paid by the state, and upon the certificate of the chairman of the commission, approved by the Governor, the Auditor shall draw his warrant upon the Treasurer for payment. If the commission deems it necessary they may require any such company to produce all books

correspondence and papers relating to or touching upon the matter under investigation or that may furnish evidence material to the matter under investigation, or which shows or may tend to show a violation of this section, and if any such company, or any officer employe or person in the possession of such books, papers or correspondence shall refuse to obey the orders of the commission and produce such books, papers or correspondence, such company and the officer, [fol. 50] employe or person in possession so refusing shall be deemed guilty of a misdemeanor and upon conviction shall be fined in any sum not to exceed one thousand dollars.

Sec. 15. Every express company, telephone company, telegraph company, and natural gas company, shall on or before the first day of September in each year make and transmit to the Railroad Commission at its office in Frankfort under oath of the president or manager of the company a full and true statement of the affairs of said company on blanks to be furnished by the Railroad Commission, and any such company failing to make such report showing the affairs of said company as the same existed on the first day of the preceding July, shall be deemed guilty of a misdemeanor and upon conviction, shall be fined in any sum not to exceed one thousand dollars and Franklin Circuit Court is given jurisdiction of such offense.

Sec. 16. The Railroad Commission shall examine into the condition, management and all other matters concerning the business of such companies in this State, so far as the same pertain to the relation of such companies to the public, and whether such companies, their officers and employes, comply with the laws of this State, and whenever it shall come to their knowledge, or they shall have reason to believe that the laws affecting such companies in their business relations to the public have been violated, they shall prosecute or cause to be prosecuted the companies or persons guilty of such violations. The Railroad Commission shall have the power to examine under oath any person of the directors, officers, agents and employes of any company mentioned in this act doing business in this State, concerning the management of its affairs, and to obtain in- [fol. 51] formation pursuant to this law, and shall have power to issue subpœnas for the attendance of witnesses and to administer oaths, and any person who shall neglect or refuse to obey the process or subpœnas issued by said commission, or who being in attendance shall refuse to testify, shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished for such offense by a fine of not less than fifty dollars nor more than one hundred dollars, or by imprisonment not less than ten or more than fifty days, or both, in the discretion of the jury, and in making such examination said Commission shall have full power to demand the production of all books, correspondence and papers which may show or tend to show any violation of this act, or which may afford any information to said commission in their investigation, and if any officer, agent, employe or other person in possession of such books, papers, or correspondence shall refuse to obey orders of the commission demand-

ing the production of such, such person shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined in any sum not to exceed five hundred dollars, or imprisoned in the county jail not to exceed six months. Any person who shall, in any way, hinder or obstruct the commission in the discharge of its duty shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined for each offense not to exceed five hundred dollars, and it shall be the duty of the commission to prosecute the person so offending, and the Franklin Circuit Court or the circuit court of any county through which the lines of any such company run, the officer, agent, or employe of which has violated the provisions of this act shall have jurisdiction of such prosecution, and it shall be the duty of the Commonwealth's attorney to prosecute all indictments, actions and proceedings under this law.

SEC. 17. It shall be the duty of the Railroad Commission to see [fol. 52] that every provision of this act is carried out, and it shall have the power to hear and determine every complaint of any violation of the provisions of this act, provided, that all complaints shall be made in writing and the company complained of shall have not less than ten days' notice of the time and place of the hearing of same. The commission shall hear and reduce to writing all evidence adduced by the parties, and render such award as may be proper. If the award of the commission be not satisfied within ten days after the same is rendered, the chairman shall file a copy of said award and the evidence heard in the office of the clerk of the circuit court of the county which, under the Code of Practice, would have jurisdiction of said controversy, and the clerk of said court shall enter the same on the docket for trial, and summons shall be issued as in other cases against the party against whom the award shall have been rendered, requiring said party to appear in the court within the time allowed in ordinary cases and show cause why said award shall not be satisfied. If such party fails to appear, judgment shall be rendered by default, and the same proceedings had thereon as in other ordinary cases. If a trial is demanded the case shall be tried in all respects as other ordinary cases in which the same amount is involved, except that no evidence shall be introduced by either party except that heard by the commission except such as the court shall be satisfied by sworn testimony could not have been procured before the commission by the exercise of reasonable diligence, the judgment and proceedings thereon shall be the same as in other ordinary cases.

SEC. 18. The commission shall not give publicity to any contract, leases or engagements obtained by them in their official capacity, if the interest of any company would thereby be injuriously affected, [fol. 53] unless in the judgment of the commission the public interest requires it.

SEC. 19. It shall be the duty of any sheriff or deputy in the Commonwealth of Kentucky to execute all summons and orders necessary to be issued by the Railroad Commission and make return to the

chairman of the commission how they have executed said subpœnas and orders.

Sec. 20. It shall be unlawful for any steamboat or steamboat company, or steamboat line that makes port in this State, to combine with or make any contract or agreement or to have any understanding with any railroad company, or other common carrier, by which combination, contract or agreement the earnings of the one doing the carrying are to be shared by the other not doing the carrying, and no carrier by rail shall direct, control or influence by agreement, contract or understanding, the rates of any carrier by water, or own or control any stock or bonds of any company or corporation engaged in any transportation by water, and no carrier by water shall direct, control or influence by any agreement, contract or understanding, the rates of any carrier by rail, or own or control any stock or bonds of any company or corporation engaged in transportation by rail, and it shall be the duty of the Railroad Commission to enforce the provisions of this act, and to this end said commission shall have the power and authority to make full and complete investigation of any alleged violation of the provisions of this section, and to summons before it any officers, agents or employes of any carrier by rail or water who shall be required to testify on oath concerning all matters inquired into by said commission touching the violation of the provisions of this section, and after said investigations the commis- [fol. 54] sion shall have the authority, if, in its opinion or judgment, the provisions of this section are being violated, to issue orders prescribing rules and regulations to prevent the further violation of the provisions of this section, and if thereafter any carrier by water or rail shall violate any order issued by said commission under the provisions of this section, said carrier by water or rail, its agents, servants and employes, shall be deemed guilty of a misdemeanor and, upon conviction, shall be subject to a fine in any sum not to exceed one thousand dollars for the first offense, three thousand dollars for the second offense, and five thousand dollars for every succeeding offense; provided, however, that the provisions of this section shall not apply to such water transportation carried on by railroad companies as are necessarily incident to the actual conduct of the carrier's business by rail.

Sec. 21. The circuit court having jurisdiction under the provisions of the Civil Code of Practice, and also the Franklin Circuit Court, shall have jurisdiction and authority to enforce all orders of the Railroad Commission made under the provisions of this act, and the chairman of the commission shall have the authority to file a petition in equity in the name of the Commonwealth invoking the aid of any circuit court having jurisdiction as provided herein, to compel any company mentioned in this act under the control or supervision of the Railroad Commission to obey, execute, comply with or make effective any order of the commission made in pursuance of this act, and such company shall be summoned and the issues joined by the pleadings and the cause docketed and tried as in any other suits

in equity, except that the transcript of the evidence offered before or heard by the commission, or a properly certified copy thereof, and the record of all proceedings in the cause before the commission, or a certified copy thereof, shall be filed in the court and made a [fol. 55] part of the record in the cause, and no evidence shall be introduced on the hearing in court by either party other than said evidence offered before or heard by the commission, except such evidence as the court shall be satisfied from affidavits or sworn testimony could not, by the exercise of reasonable diligence, have been procured at the hearing before the commission. If additional testimony be introduced in court, the cause shall be remanded to the Railroad Commission with authority to alter, change, modify or affirm its original order before the recommendation of a judgment by the court in reference to the order or orders of the commission. From the judgment of the court an appeal shall lie to the Court of Appeals by either the commission or the company, and all proceedings in court under this act shall have precedence over all other causes except criminal cases. It shall be the duty of the Attorney General of the Commonwealth to represent the Railroad Commission in the proceedings provided for herein. The proceedings provided for under this section of this act shall not be exclusive of but in addition to other proceedings and penalties provided by law.

Sec. 22. When complaint shall be made to the Railroad Commission accusing any steamboat, steamboat company or other boat or water craft propelled by the use of oil, gasoline or other means, charging or collecting or receiving any unreasonable or extortionate rate or rates for the transportation of property over its line or lines in this Commonwealth, or when said commission shall receive information, or have reason to believe that such unreasonable or extortionate rate or rates are being charged, collected or received, it shall be the duty of said commission to hear and determine the matter as speedily as possible. Said commission shall give the company or boat complained of not less than ten days' notice by letter mailed [fol. 56] to an officer or agent of said company, stating the time and place of the hearing of same also the nature of the complaint or matter to be investigated, and shall hear such statement, argument or evidence offered by the parties as the commission may deem relevant, and should the commission determine that the company or boat is or has been guilty of extortion, said commission shall make and fix a just and reasonable maximum rate which such company or boat may charge, collect or receive for like services thereafter rendered. The maximum rate so fixed by the commission shall be entered and by an order on the record book of their office and signed by the commission, and a copy thereof mailed to an officer or agent of the company affected thereby, and shall be in full force and effect at the expiration of ten days thereafter, and may be revoked or modified by an order likewise entered of record. And should such company or boat or any officer, agent or employe thereof, charge, collect or receive a greater or higher rate for like services thereafter rendered than that made and fixed by said commission, as herein

provided said company and said officers, agent or employe shall each be deemed guilty of extortion, and upon conviction, shall be fined for the first offense in any sum not to exceed one thousand dollars, and upon a second conviction in any sum not to exceed two thousand dollars; and for a third and succeeding conviction in any sum not to exceed five thousand dollars. The circuit court of any county into or through which the line or lines of such company runs, shall have jurisdiction of the offense against such company, or boat offending, and the circuit court of any county where such offense may be committed by such officer, agent or employe shall have jurisdiction in all prosecutions against said officers, agent or employe, and all such prosecutions under this act shall be by indictment [fol. 57] or penal action, and shall be commenced within two years after the offense shall have been committed. In making any investigation provided for in this section, said commission may, when deemed necessary, take the deposition of witnesses before an examiner or notary public whose fees shall be paid by the State, and upon the certificate of the chairman of the commission, approved by the Governor, the Auditor shall draw his warrant upon the treasurer for payment. If the commission deems it necessary they may require any such company, or boat to produce all books, correspondence and papers relating to or touching upon the matter under investigation or that may furnish evidence material to the matter under investigation, or which shows or may tend to show a violation of this section; and if any such company, or any officer, employe or person in the possession of such books, papers or correspondence shall refuse to obey the orders of the commission and produce such books, papers or correspondence, such company and the officer, employe or person in possession so refusing shall be deemed guilty of a misdemeanor, and upon conviction, shall be fined in any sum not to exceed one thousand dollars.

Sec. 23. If the franchise of any public service company embraced in this act shall have expired, and the service is continued without obtaining a new franchise the said public service company shall be subject to the jurisdiction and authority of the Railroad Commission, and shall not withdraw its service from any municipality, county or community without first obtaining the permission of the said Railroad Commission so long as it remains in business in this Commonwealth, or any part thereof.

Sec. 24. The word "company", as used in this act shall include persons, firms, companies, and corporations engaged in any business mentioned in this act.

[fol. 58] Sec. 25. All laws and parts of laws in conflict herewith are hereby repealed.

Sec. 26. Whereas, many communities in this Commonwealth are at the present time not securing from express companies, telegraph companies and telephone companies and natural gas companies rea-

suitably adequate service and facilities at a reasonable charge therefor, an emergency is hereby declared to exist, and this act shall be effective from and after the date of its passage and approval by the Governor.

Approved March 22, 1920.

[fol. 59] EXHIBIT "C" TO COMPLAINT

RAILROAD COMMISSION OF KENTUCKY

Warfield Natural Gas Company (Incorporated)

Natural Gas

Principal office—Catlettsburg, Kentucky

Schedule of Rates Issued June 30, 1923. Effective August 1, 1923

NOTE.—This schedule shows an increase over the rate charged by United Fuel Gas Company, predecessor of Warfield Natural Gas Company, at Ashland, Catlettsburg, Louisa, Russell and Rural Districts in the same vicinity, indicated at the stars on page 3 hereof.

[fol. 60] Schedule of Rates For Natural Gas Charged by Warfield Natural Gas Company (Incorporated)

Kentucky

Domestic Service

Includes consumers to whom service will not be discontinued by reason of shortage of supply, until after supply to commercial consumers is discontinued, and applies generally to persons who use gas in residences, stores, etc., heated without boilers.

Commercial Service

Includes consumers, service to whom, in case of shortage, may be discontinued in order to supply domestic consumers, and who can substitute other fuel without great inconvenience, and applies to those who use gas for manufacturing or purposes other than domestic service, and is furnished only under special uniform contract.

Page 3

[fol. 61] (*) Ashland, Catlettsburg, Louisa, Russell and Rural Districts in the Same Vicinity

Domestic Service

(*) 65 cents per 1,000 cubic feet, discount, 5 cents per 1,000 cubic feet. Minimum monthly charge, 50 cents.

Commercial Service

(*) First 500,000 cubic feet consumed in each calendar month, 41 cents per 1,000 cubic feet.
All over 500,000 cubic feet consumed in each calendar month, 31 cents per 1,000 cubic feet.
Discount, 1 cent per 1,000 cubic feet.

Inez, Buchanan, Burnaugh, Warfield, Wolf Creek, Hindman, and Rural Districts in the Same Vicinity

Domestic Service

40 cents per 1,000 cubic feet; discount, 3 cents per 1,000 cubic feet. Minimum monthly charge, 50 cents.

Greenup, Clinville, and Rural Districts in the Same Vicinity

Domestic Service

45 cents per 1,000 cubic feet; discount, 3 cents per 1,000 cubic feet. Minimum monthly charge, 50 cents.

NOTE.—Discounts referred to above are given in the case of domestic consumers for payment on or before the 10th day of the month for gas consumed during the preceding month, and in the case of commercial consumers for payment on or before the 20th day of the month for all gas consumed during the preceding month.

Dated Catlettsburg, Kentucky, June 30, 1923.

Warfield Natural Gas Company (Incorporated), by R. A. Robertson, Vice-President.

(*) NOTE.—This schedule shows an increase over the rate charged by United Fuel Gas Company, predecessor of Warfield Natural Gas Company, at Ashland, Catlettsburg, Louisa, Russell and Rural Districts in the same vicinity.

[fol. 62] EXHIBIT "D" TO COMPLAINT

BEFORE THE RAILROAD COMMISSION OF KENTUCKY

WARFIELD NATURAL GAS CO.

vs

CITY OF CATLETTSBURG ET AL

UNITED FUEL GAS COMPANY

vs

CITY OF CATLETTSBURG ET AL

The above entitled actions were by agreement consolidated and heard together by the Commission.

The petitioner, Warfield Natural Gas Co., on June 29th, 1923, filed its petition before the Commission alleging that it had succeeded by purchase to the ownership of all the gas properties of the United Fuel Gas Company in Kentucky on June 28th, 1923, including properties located in the defendant cities, and that it had entered into a contract to purchase its supply of natural gas from said Fuel Gas Company at 30c per M cu. ft. delivered in West Virginia, and offered to file with the Railroad Commission of Kentucky schedule of increased rate for natural gas in said city.

The United Fuel Gas Company on July 11th, 1923, filed a petition before the Commission to revoke and set aside the order of the Commission theretofore made and entered January 18th, 1922, as and in case No. 13 on the docket of said Commission. The record in the latter case is made a part of the evidence in the instant case No. 204, and the city of Russell was granted leave to intervene as a defendant.

Thereupon the petitioners introduced testimony and filed exhibits [fol. 63] relating to the value of the property of the United Fuel Gas Company, its operating revenue and operating expense as a whole, and for the defendant cities as well. Thereafter the defendants introduced testimony in their own behalf, and we are called upon to decide a just and reasonable rate to be charged the defendants for gas service in the respective cities. We have carefully and painstakingly read the record and briefs of counsel and do not find it necessary to extend this opinion to great length in stating our conclusions herein expressed.

It is admitted in the record by counsel that the United Fuel Gas Company owned all the stock of the Warfield Company, and we assume that the officers and directors of the latter company are those chosen by the Fuel Gas Company, or the parent corporation of the latter and the conclusion is easily reached that the Warfield Company is merely a subsidiary distributing corporation of the Fuel Gas Company, which owns and controls the property of said company through its corporate management. While they are separate legal entities, it is not shown that they represent diverse or

antagonistic interest, and we are unable, in fixing a reasonable rate to be charged in the defendant cities, to consider or be bound by the price of 30¢ contracted by the Warfield Company to be paid the Fuel Gas Company, and consider such price wholly unreasonable. In a case of this character the bare fact that one company agrees to sell and the other to buy at a given rate per M cu. ft., is not evidence of the reasonableness of said rate. The ordinary relation of buyer and seller does not obtain. There is no meeting of minds nor any contract within the ordinary meaning of the term. It amounts to nothing less than the Fuel Company making a contract with itself, so far as the matter is concerned for rate purposes so that the question to be decided is, does the Fuel Gas Company receive a fair rate of return upon the property invested in the service, [fol. 64] and to determine this question we have applied the rules announced by the Federal Supreme Court in the following cases:

Galveston Electric Company v. City of Galveston, 258 U. S. 388.

Brush Electric Co. v. City of Galveston, 258 U. S. 42.

Southwestern Bell Telephone Co. v. Public Service Commission of Missouri, P. U. R. 1923 C, p. 193.

Georgia Railway & Power Co. v. Railroad Commission of Georgia, P. U. R. 1923 D, p. 1.

The Legislature of this state has declared the natural gas business within its bounds to be one of public concern and subject to regulation by the Commission. The conclusion is inescapable that the Warfield Company was organized by the Fuel Company to evade regulation provided by statute in this state, and primarily in order to enable the Fuel Company to withdraw from this state. We think it cannot do by indirection what it might not do if it remained in the state, and that the Fuel Company, whose rights and obligations are subject to state restrictions cannot remove them from that power by making a contract about them.

Hudson County Water Co. v. McCarter, 209 U. S. 349.

This rule of justice, we think is very aptly stated by the Federal Supreme Court in the case of N. Y. & Q. Gas Company v. McCall, 245 U. S. 345, wherein the court said:

"Corporations which devote their property to a public use may not pick and choose, serving only the portions of the territory cov- [fol. 65] ered by their franchise which it is presently profitable for them to serve, and restricting the development of the remaining portions by leaving their inhabitants in discomfort without the service which they alone can render. To correct this disposition to serve where it is profitable, and to neglect where it is not, is one of the important purposes for which these administrative commissions, with large power, were called into existence, with an organization and with duties which peculiarly fit them for dealing with problems such as this case presents."

We cannot agree that the citizens of Kentucky, by reason of their residence on the west bank of the Big Sandy River shall pay a much

larger rate for the gas consumed than is paid by the residents of West Virginia on the East bank of said River. It is axiomatic that citizens of this Commonwealth are entitled to reasonable rates no less than are citizens of West Virginia, and any discrimination against citizens of this Commonwealth cannot be tolerated. While it is proper to permit an additional charge to take care of the extra cost of distributing the gas on the Kentucky side of the River, yet it requires but small addition to take care of this item, but the main question is whether or not the United Fuel Gas Company is receiving a fair and adequate rate of return upon all of its property, including the Kentucky investment. The record demonstrates that this question must be decided in the affirmative.

The Supreme Court of West Virginia on November 27th, as we are advised, further reduced the rate obtaining in said state, and the West Virginia Commission has had before it this question for several years at various times and has steadfastly refused to grant higher rates. The judgment of the West Virginia Supreme Court [fol. 66] and the orders of the Commission of that state confirm the conclusions that we have independently reached by the study of the record that the rates heretofore fixed by this Commission on January 18th, 1922, are just, fair and reasonable, and permit the petitioners to earn an adequate rate of return on their property devoted to the public use.

The contention that the petitioner may, by filing a schedule of rates before this Commission, change its rates cannot be upheld here, as in this case the Commission has by its order fixed reasonable rates which, as we understand the statutory mandate, shall stand until changed or modified by the Commission. Any other construction would enable the petitioner to evade the force and effect of the order by filing a new schedule of rates every 30 days.

The record as presented would not permit us to award reparation at this time for the obvious reason that no consumer is here by petition, praying such relief, but we think it proper to strike this case from the docket with leave to reinstate same upon 10 days notice to or by either party thereto and with leave to any consumer upon proper pleading to intervene for reparation purposes and without prejudice to such rights, or for the purpose of showing any change in rates that may be established by petitioners in West Virginia in pursuance of final disposition of the litigation now pending in said state. For the same reason, and on account of the state of the record, we cannot at this time order any reductions in rates in said cities. This would be true altho the Commission should be of the opinion that the rates were excessive, but this we expressly decline to decide at this time, and on the record as presented hold the rates effective in pursuance of our order of January 18th, 1922, as reasonable until ordered changed by the Commission, and rates in excess thereof as unjust, unreasonable and extortionate. To the [fol. 67] extent that rates charged and collected by petitioners are in excess of such rates, as ordered since the effective date of said order, reparation will be awarded upon proper application of consumers who have paid such rates in excess of the lawful rates so

established. Authority to petitioners to file its new schedule of rates tendered the Commission is denied.

It is further ordered that the petitioner shall furnish adequate service and facilities to all consumers applying therefor within a reasonable time after such application shall be made.

Entertaining these views, we are unable to grant any increase of rates in said defendant cities, and their petition is therefore dismissed, nor can we give our consent to the withdrawal of the petitioners or either of them from Kentucky, nor can we vacate our order of January 18th, 1922, and their motion is therefore denied.

An appropriate order will be entered on this December 11th, 1923, in accord with these conclusions, and the consolidated cases are stricken with leave as herein provided.

[fol. 68] Before the Railroad Commission of Kentucky,
December 11, 1923

Case No. 204

Warfield Natural Gas Co., Petitioner

vs.

City of Catlettsburg et al., Defendants

Order

And

United Fuel Gas Co., Petitioner

vs.

City of Catlettsburg et al., Defendants

Order

Upon consideration of the record in the above stated matter

1. It is ordered that the petition of the Warfield Natural Gas Company be and the same is hereby dismissed, and it is further ordered that the motion of the United Fuel Gas Company to vacate the order of January 11, 1922, be and the same is hereby denied, and it is further ordered that the petition of the Warfield Natural Gas Company and of the United Fuel Gas Company to withdraw or abandon the service in the said cities be denied and refused.

2. It is further ordered that the attempt made by the petitioners to increase the rates for gas furnished to the consumers in said cities by offering to file a new schedule of rates for gas service in said cities is held for naught and of no force and effect and such increase is refused and denied.

3. It is further ordered that the following schedule of rates as fixed by the order of January 18, 1922, case No. 13, shall be the maximum rates for gas furnished to domestic consumers in the [fols. 69 & 70] cities of Catlettsburg, Ashland and Louisa, to-wit: 80% of the rates in effect prior to said January 18, 1922, or .32 cents per M cubic feet, less a discount of four cents per M cubic feet if paid within the discount period, making a net rate of .28 cents per M cubic feet for gas furnished to domestic consumers in said cities if paid within the discount period, with a minimum monthly charge of not exceeding fifty cents per meter.

4. It is further ordered that the petitioners herein furnish and supply to all consumers and applicants for gas service in said cities adequate and sufficient facilities and gas service under reasonable rules and regulations, meaning thereby that any applicant for gas service under such rules shall be supplied with facilities and furnished with gas within a reasonable time after such application shall be made therefor.

5. It is further ordered that all consumers in said cities that have paid for gas in excess of the legal rate established January 18, 1922, as aforesaid are justly entitled to reparation or refund of all such excess collected and paid for such gas, and upon a filing of claim therefor in accordance with the opinion herein reparation will be awarded.

A copy. Attest: W. W. Jesse, Secretary.

No. 3436

IN THE

DISTRICT COURT

OF THE

UNITED STATES

FOR THE EASTERN DISTRICT OF KENTUCKY

UNITED FUEL GAS COMPANY, A CORPORATION, AND WARFIELD NATURAL GAS COMPANY, A CORPORATION,

Plaintiffs,

vs.

THE RAILROAD COMMISSION OF KENTUCKY, FRANK N. BURNS, OSCAR VEST AND ISAAC WILDER, MEMBERS OF AND CONSTITUTING SAID THE RAILROAD COMMISSION, AND THOMAS B. McGREGOR, ATTORNEY GENERAL OF THE STATE OF KENTUCKY,

Defendants.

In Equity

EXHIBIT "B" WITH BILL

Exhibit B—1.

BEFORE THE RAILROAD COMMISSION

OF THE

COMMONWEALTH OF KENTUCKY

THE CITY OF CATLETTSBURG AND OTHERS

Plaintiffs,

vs.

UNITED FUEL GAS COMPANY,

Defendent.

Motion

The plaintiffs, City of Catlettsburg, City of Ashland and City of Louisa, move the commission to strike from the record and not consider as evidence herein the report of S. S. Wyer, appearing as "Seyffert Exhibit No. 3," page 37 of the defendant's evidence, and, also, the report of Dr. I. C. White introduced as "Seyffert Exhibit No. 4," page 38, of the defendant's evidence; because said reports are not competent evidence in this action.

Attorney for City of Louisa.

Attorney for City of Catlettsburg.

Attorney for City of Ashland.

Exhibit B—2.

COMMONWEALTH

OF

KENTUCKY RAILROAD COMMISSION

CITY OF CATLETTSBURG, KENTUCKY, A MUNICIPAL CORPORATION,

Plaintiff,

vs.

UNITED FUEL GAS COMPANY,

Defendant.

Complaint that Rate Charged for Natural Gas By Defendant is unreasonable, etc.

Motion to Dismiss the Intervening Petitions Filed by the Cities of Ashland and Louisa, Kentucky, and Answer to Said Intervening Petitions.

The defendant, United Fuel Gas Company, moves to dismiss the intervening petition filed herein by the City of Ashland, and also the intervening petition filed by the City of Louisa, Kentucky, for the reason that this Honorable Commission is without jurisdiction to determine the matters arising upon the original complaint herein or upon either of said intervening petitions, and is without jurisdiction to grant the relief prayed in said original complaint or in either of said intervening petitions, or any part of such relief.

Without waiving its said motion, but relying and insisting upon the same, this respondent, for answer to each of said intervening petitions, says:

FIRST: Respondent hereby adopts, as a part of its answer to each of said intervening petitions, the answer filed by it to the original complaint of the City of Catlettsburg

herein, and prays that its said answer to said original complaint be regarded as a part of its answer to each of said intervening petitions, to the same extent as if repeated at length herein.

SECOND: By way of further answer to the intervening petition filed by said City of Ashland, respondent says that it is true that it became the owner, in the month of September, 1909, of a franchise granted by said City of Ashland to Otto Germer, Jr., for a period of twenty years from December 7, 1897, and that it is true that during the twenty years of said franchise contract natural gas was supplied to the inhabitants of said city at a very low rate. It is also true that said franchise contract expired in the month of December, 1917, and that this respondent has been unwilling to accept any franchise subsequent to said date upon any terms which the authorities of said City of Ashland have proposed, but it has been at all times since the expiration of said franchise, and now is, willing to enter into a contract upon terms which would afford to respondent a reasonable revenue upon the value of its property devoted to such service, or reasonable compensation for the value of such service.

Respondent expressly denies all allegations or intimations in said intervening petitions to the effect that this respondent has a monopoly of the business of supplying natural gas in the three complaining municipalities, or any of them, and says that there are other persons, firms and corporations owning gas wells and gas lands nearer to each of said cities than the wells owned by this respondent, from which gas is produced for supplying the inhabitants of said cities, but because of the great cost and expense of producing such natural gas and its great value for commercial purposes, no other person, firm or corporation has attempted to supply the inhabitants of any one of said cities at a rate so low as that which the authorities of said cities are willing to pay. Respondent says that it has continued to maintain its pipes and mains in the streets and alleys in the City of Ashland, as well as the City of Louisa, since the expiration of the respective franchises formerly owned by it in said cities, and has continued to supply gas to the inhabitants thereof, but respondent has been ready and

willing at all times since the expiration of said franchises, and is now ready and willing, and hereby offers, to take up and remove all of its pipes, mains and appliances in the streets or alleys of each of said cities, upon the request of said cities or the properly constituted authorities thereof.

THIRD: Respondent admits that in the past several years it has increased the rate, to some extent, which it has charged for gas in each of said cities of Ashland and Louisa but denies that any of said increases were unwarranted or unreasonable, and, on the contrary, respondent avers that the increases which it has made in said rates are less than the increase which has taken place during the same period of time in the cost of producing and furnishing such natural gas, and less than the increase, during the same period, in the intrinsic value of said gas. Respondent also denies the allegation in the paragraph numbered four of the petition filed by said City of Ashland to the effect that the rate charged by respondent in said city is unreasonable, exorbitant, unjust and extortionate, and the allegation that said rate affords to respondent more than an adequate return upon its capital invested and more than a reasonable compensation for the service rendered, and the allegation that said rate exceeds by more than eighty per cent. the rate charged by respondent to the inhabitants of other cities in the same community and within a radius of ten miles of said City of Ashland, and the allegation that respondent is discriminating against the citizens of Ashland in favor of adjoining cities in West Virginia and Ohio.

FOURTH: Respondent denies the allegations in the paragraph numbered five of said petition filed by the City of Ashland, to the effect that a rate of twenty-two cents per thousand cubic feet of gas, with a discount of two cents per thousand cubic feet for prompt payment, would be a just and reasonable charge for the gas furnished and service rendered in the City of Ashland and to its inhabitants, and denies that such rate would yield to respondent a fair return for such service or a handsome dividend upon its capital invested.

FIFTH: Respondent also denies the allegations in the paragraph numbered six of the petition of said City of Ashland,

to the effect that respondent has made and is making enormous profits, and the allegation that some of said profits have been recently distributed to the stockholders of respondent by a stock dividend of more than one hundred per cent., representing recent earnings of respondent.

SIXTH: By way of further answer to the intervening petition filed by said City of Louisa, respondent denies the allegation in paragraph number two of said petition that said City of Louisa is located approximately at the source of supply of this respondent, and says, on the contrary, that its chief sources of supply of natural gas are very remote from said City of Louisa, and that said city is in no sense in the center thereof.

SEVENTH: It is true, as alleged in paragraph number three of the petition of said City of Louisa, that a franchise for the use of the streets of said city was acquired by this respondent in the month of September, 1909, by means of several intervening sales of said franchise, and that the said franchise contract was for a period of twenty years, expiring on or about the 2nd day of August, 1918. It is also true that there is no other person, firm or corporation selling or distributing natural gas in the City of Louisa, except this respondent, but respondent says that there is nothing to prevent any other person, firm or corporation from engaging in said business, except that the present cost and expense of producing and furnishing such gas renders such business unprofitable, and respondent here restates its position with reference to continuing in business in said city to be the same as that with reference to the City of Ashland and the City of Catlettsburg, as hereinbefore mentioned. Respondent admits that it has increased the rate to some extent in the City of Louisa, during the past several years, but denies that it has been more than doubled since the expiration of said franchise.

EIGHT: Respondent expressly denies the allegations in the fourth paragraph of the petition of said City of Louisa, to the effect that the rate now charged by this respondent in said city is unreasonable, exorbitant, unjust or extortionate, and denies that said rate affords to respondent more than an

adequate return upon its capital invested or more than a reasonable compensation for the service rendered. It is true that the rate now charged in said City of Louisa is somewhat in excess of the rate charged by respondent in the Town of Fort Gay, in the State of West Virginia, and respondent says that it has attempted to increase the rate so charged by it at the Town of Fort Gay, in the State of West Virginia, but under the laws of said last mentioned State it is required, before so doing, to obtain the consent of the Public Service Commission of said State, which consent it has not yet been able to obtain, although it has applied for the same in due form of law. Respondent avers, in this connection, that the rate now charged by it in said Town of Fort Gay, in the State of West Virginia, is not a fair or adequate rate to this respondent and does not afford to respondent a reasonable return upon the value of its property devoted to such service, and respondent proposes to continue the prosecution of its applications to said Public Service Commission for the purpose of obtaining an advance in said rate, and for the like purpose of obtaining an advance in rates at other places in the State of West Virginia, including the City of Huntington and the towns of Kenova and Ceredo, in said State. Respondent expressly denies that the rate now being charged by it in the Town of Fort Gay, or at any other place in the State of West Virginia, affords any proper criterion or measure of the rate properly chargeable at any other place.

NINTH: Respondent denies, in toto, the allegations in paragraph number five of the petition of said City of Louisa, to the effect that a rate of twenty-two cents per thousand feet for gas furnished in said City of Louisa would be a just or reasonable charge, and denies that such rate would yield to respondent a fair return for such service or a handsome dividend upon its capital invested.

TENTH: Respondent also denies the allegations in paragraph number six of said petition of the City of Louisa, to the effect that this respondent has made and is making enormous profits, some of which have been recently distributed to its stockholders by a stock dividend of more than one hundred per cent., representing recent earnings of respondent.

WHEREFORE, respondent prays that the original complaint of said City of Catlettsburg, together with the intervening petitions of said cities of Catlettsburg and Louisa, may be dismissed.

UNITED FUEL GAS COMPANY,

Vice-President.

Counsel for Respondent.

STATE OF WEST VIRGINIA, }
KANAWHA COUNTY, } To-Wit:

H. A. Wallace, being first duly sworn, says that he is General Manager of United Fuel Gas Company, a corporation, the respondent named in the foregoing answer, and that the statements of fact contained in said answer are true, as he verily believes.

General Manager.

Taken, sworn to and subscribed before the undersigned Notary Public in and for Kanawha County, West Virginia, this 15th day of June, 1920.

Notary Public.

My commission expires:

19

Exhibit B—3.

SEYFFERT EXHIBIT No. 1

UNITED FUEL GAS COMPANY, INC.

Statement showing percentage of increase in expenses for producing, transporting and distributing natural gas, not including federal taxes, or depletion and depreciation.

	Per Cent Increase 1919 over 1918	Per Cent Increase 1920 over 1919	Per Cent Increase Seven Months in 1921 Over Like Period in 1920
Gas Purchased	2 8	2 3	8 7
Production Expense	16 7	11 4	5 7
Transmission Expense	27 1	62 5	2 7
Distribution Expense	14 2	34 3	5 8
Commercial Expense	18 5	15 3	5 4
General Expense	14 7	47 5	26 7
Total Gas Expense	13 7	24 5	9 6

SEYFFERT EXHIBIT No. 2

UNITED FUEL GAS COMPANY

Increasing Labor Costs

The following shows some representative unit prices of Labor for the years 1913, 1918 and 1921, with the percentage of increase.

	1913	1918	1921	Increase 1921 over 1913	Increase 1921 over 1918
Rouster	$ 71.50 Mo.	$ 95.00 Mo.	$125.00 Mo.	75%	32%
Line Walker	66.00 "	95.00 "	125.00 "	89%	32%
Well Blower	71.50 "	100.00 "	125.00 "	75%	25%
Laborer	71.50 "	90.00 "	120.00 "	68%	33%
Well Man	71.50 "	100.00 "	125.00 "	75%	25%
Station Man	71.50 "	95.00 "	135.00 "	89%	42%
Meter Man	75.00 "	100.00 "	125.00 "	66%	25%
Teamster	65.00 "	100.00 "	120.00 "	85%	20%
Lineman	65.00 "	110.00 "	135.00 "	108%	23%
Engineers	100.00 "	165.00 "	210.00 "	110%	28%
Ass't Engineers	70.00 "	120.00 "	130.00 "	86%	8%
Oilers	70.00 "	110.00 "	120.00 "	71%	9%
Tool Dressers	4.25 Day	8.00 Day	7.00 Day	65%	12%
Driller	5.25 "	9.00 "	9.00 "	71%	
Tester	100.00 Mo.	160.00 Mo.	200.00 Mo.	100%	25%
City Agents' Average	117.00 "	180.00 "	250.00 "	118%	39%
City Plant Office Clerks Average	72.50 "	102.50 "	134.50 "	86%	31%

Exhibit B—4.

VALUATION REPORT ON THE OIL AND GAS PROPERTIES OF THE UNITED FUEL GAS COMPANY OF CHARLESTON, WEST VIRGINIA, AS OF MARCH 1st, 1913, AND OF DECEMBER 31st, 1918

By I. C. WHITE
State Geologist of West Virginia

Mr. R. G. Altizer, Vice-President,
United Fuel Gas Company,
Charleston, W. Va.

Dear Sir:

Complying with your request of several weeks ago, and after much study of all the data, maps, records of rock pressures, initial production of oil and gas wells, etc., submitted, I herewith submit my estimates of the value of your oil and gas leaseholds held on March 1st, 1913, and also the additional values developed since that date up to December 31st, 1918. These respective values do not include detailed study of any of your investments in pipe lines, pump stations, gasoline recovery plants, water lines, casing, derricks, boilers, engines, or any of the mechanical devices necessary in the production and marketing of petroleum and natural gas, but the values of these equipments are simply taken from your investment statements and added to the leasehold values without any deductions for wear and tear or depreciation.

The main difficulty in arriving at fairly accurate and reliable values of oil and gas leaseholds, both developed and undeveloped, is in the determination or selection of a dependable method of estimating the quantity of these products underlying the leaseholds in question, and then of affixing a money

value upon the same based upon sufficiently tried and approved evidence. Whatever of success the writer may have heretofore had in affixing values to oil and gas properties, both before and after their development, has been based largely upon factors previously worked out and established as valid and reliable guides during the history of the oil and gas industry, and in the present case the same methods that have heretofore proven safe and conservative in estimating oil and gas values will be used.

First, we shall consider the value of your oil and gas leaseholds as of March 1st, 1913. Your official records disclose that on this particular date your Company owned 27,382.7 acres of developed or operated gas acreage distributed over 9 counties (Boone, Clay, Jackson, Kanawha, Lincoln, Logan, Mingo, Putnam, and Roane), of West Virginia, and one (Martin) of Kentucky, and that the three (Clendenin, Spencer and Triple State) produced fields, into which you had classified your operated gas areas at that date, had put into your transportation lines for marketing during the month of February, 1913, the following quantities of natural gas:

	Cubic Feet
Spencer Field	846,331,000
Clendenin Field	2,457,930,000
Triple State Field	9,218,000

or a total of ..... 3,303,479,000 cubic feet at a net profit of approximately 4 cents per 1,000 cubic feet, since the net profit on the entire 28,620,950,000 cubic feet of gas marketed during the calendar year of 1912 was at the rate of 4 cents on each 1,000 cubic feet. This gives one of the very important factors for estimating the value of natural gas after all the expense of securing, transporting, and marketing the same had been deducted.

The next question is how much gas existed under the leaseholds owned by the United Fuel Gas Company on March 1st, 1913. Here again we must find a yard stick based upon experience. Fortunately in Monongalia County, West Virginia, and Greene County, Pennsylvania, there is a fairly restricted gas field that has been operated for natural gas for

a period of more than 30 years, the first pipe line from this field to Morgantown, West Virginia, having been completed in January, 1889. This field was first drilled into early in 1887 near the town of Mt. Morris, Greene County, Pennsylvania, and is about 20 miles long and will average a little more than a mile in productive width, the principal gas horizon being in the Big Injun Sand of the Mississippian strata, and the operated area approximately 15,000 acres. The original rock pressure was 600 pounds to the square inch for the Big Injun Sand. In the southern end of the field a considerable quantity of gas has also been obtained from lower and deeper sands, like the Fifty-Foot and Bayard with still higher rock pressures, but the Big Injun Sand did not furnish much gas where these deeper sands were productive. For the first half of this 30 years of gas history of what might be termed the Mount Morris Gas Pool, the product was sold without metering, and there was great waste in the field, since a narrow belt of Big Injun oil extended along the western side of the gas zone, lying at a slightly lower level down the dip on the northwest slope of the strata. For the last 10 to 15 years, however, the principal portion of the natural gas output of this pool has been metered and hence a fairly reliable estimate of the original contents of the field can be made. This estimate based both on personal knowledge of the unmetered yield while the rock pressure was high and the meter yield since the rock pressure had greatly declined, leads to the conclusion that considerably more than 100 billion cubic feet of natural gas has already been produced from the 15,000 acres of productive gas territory in question, and although the rock pressure in the Big Injun Sand (the principal gas horizon), has declined to only 40 to 50 pounds at the end of 1918, the field is still yielding over 3 billion cubic feet annually in supplying the city of Morgantown, and the towns of Point Marion, Mt. Morris, Star City, Granville, Cassville, and several other small villages, so that already a yield of more than 7 million cubic feet of natural gas per acre has been taken from this field, and hence it is practically certain that the field originally contained somewhere between 7 and 10 million cubic feet of available gas per acre. Moreover, there is no reason for believing that this particular area was originally richer in gas content than any other equal gas area of West

Virginia from the standpoint of greater number of producing horizons, thickness of "pay" sand, higher original rock pressures, or from the developed history of the numerous other gas pools of the State, many of which have had nearly double the original rock pressure of the Mount Morris field. Hence in adopting 7 million cubic feet per acre for the original gas contents of the average West Virginia productive gas pools as the unit of measure, the yard-stick is liable to be too short rather than too long, and is therefore entirely conservative.

Now we find from the records of the United Fuel Gas Company that on March 1st, 1913, it had a cash investment of $15,004,798.33 distributed among the several items as follows:

STATEMENT OF INVESTMENT

March 1, 1913

Operated Gas Acreage (27,832.70 acres)	$ 844,674.50
Unoperated Gas Acreage (829,427.26 acres)	6,036,611.05
Cost of Gas Wells	1,805,546.40
Oil Investment	495,220.85
Oil Acreage	69,947.00
Total	$ 9,251,999.80
Main, Field and Well Conn. Lines and Street Mains	$ 5,307,452.07
Regulators, Meters, etc	229,869.99
Telegraph and Telephone Lines	52,605.24
Office Furniture	23,242.15
Buildings	43,777.50
Tools	97,249.32
Service Lines	13,474.84
Compressor Stations	
Horses, Wagons, Autos	17,129.12
Gasoline Stations	
Adjustments	2,101.70
Discount on Bonds	
Total	$ 5,752,798.53
Grand Total	$15,004,798.33

Also that the field of its operations covered the following counties, districts, etc., with the operated or developed acreage indicated:

UNITED FUEL GAS COMPANY

Operated Gas Acreage, March 1st, 1913 (*)

KENTUCKY	Acreage	Cost
Martin County	2,692.10	$ 2,464.30
WEST VIRGINIA		
Scott District, Boone County	100.00	100.00
Union District, Clay County	500.00	4,100.00
Washington District, Jackson County	773.00	2,511.19
Big Sandy District, Kanawha County	2,257.01	80,671.41
Elk District, Kanawha County	2,263.00	20,292.15
Duval District, Lincoln County	100.00	100.00
Chapmansville District, Logan County	200.00	236.37
Harvey District, Mingo County	500.00	426.00
Warfield District, Mingo County	948.18	968.18
Teays Valley, Putnam County	400.00	400.00
Curtis District, Roane County	2,922.50	138,747.31
Geary District, Roane County	4,850.67	262,670.23
Harper District, Roane County	1,441.00	5,912.84
Smithfield District, Roane County	1,298.00	53,196.79
Spencer District, Roane County	1,783.50	75,116.37
Walton District, Roane County	4,403.74	196,761.36
Total West Virginia	24,690.60	$842,210.20
Grand Total	27,382.70	$844,674.50

(*) This acreage does not represent proven acreage. It represents only the acreage in those certain leases on which wells have been drilled and by such drilling has been placed on a royalty basis instead of delay rental basis. In case of large tracts, the rule has been to consider only 100 acres per well as being in the same class as that mentioned above.

As heretofore stated, we learn from the records of the United Fuel Gas Company that during the calendar year of 1912, this investment produced a net profit of $1,220,877.22 on the gas produced during the year, also a net profit of $661,565.18 on its 445,992 barrels of oil produced for that year, and $1,506.33 on miscellaneous items, or a total of $1,883,948.73

for the year (1912) in question. The $1,220,877.22 net earnings from the sale of natural gas was at the rate of slightly more than 4 cents on each 1,000 cubic feet of the 28½ billion cubic feet of gas handled, while the oil earnings netted $1.48⅓ per barrel, and hence these factors would hold approximately good for the earning ratio on natural gas and oil as of March 1st, 1913. Hence we shall assume that the gas is worth 4 cents per 1,000 cubic feet under the leaseholds owned on that date. To show that the natural gas of this particular Company does not depreciate in value while stored in the rocks, it may be stated that the net earnings from gas sales during the calendar year of 1918, exclusive of gasoline derived from gas, amounted to 6⅓ cents per 1,000 cubic feet or one-and-a-half times the value (4 cents) here placed on each 1,000 cubic feet of natural gas reserves under these leaseholds of the United Fuel Gas Company on March 1st, 1913. Hence the conservative value of this one factor cannot be questioned.

An examination of the records in the three main fields where the United Fuel Gas Company has gas production on March 1st, 1913, as also the original rock pressures, and those determined near that date (March 1st, 1913), will show only the Triple State field containing 4,140.28 acres, had suffered any serious depletion, while the Spencer and Clendenin fields in which the principal bulk of the developed gas territory; viz.: 23,242.42 acres of the 27,382.7 acres in all developed and operated at the date in question, was located, had been depleted only to a moderate extent as measured by decline in rock pressures. Hence if we place the depletion of the 4,140.28 acres of Triple State leaseholds at 50 per cent., and that of the 23,242.42 acres of the Spencer and Clendenin fields at 15 per cent., we shall be within conservative figures. Deducting these percentages of exhaustion from the acreages in question, we get the following remainders:

4,140.28 acres less 50 per cent (2,070.12 acres) = 2,070.12
23,242.42 acres less 15 per cent (3,486.36 acres) = 19,756.06

A total undepleted acreage of 21,826.18 acres of gas territory which would yield quite as much gas per acre as

that in the Mt. Morris field already described, since over much of these three fields there are frequently two producing horizons; viz.: Big Injun and Berea Sands, and frequently others, like the Salt Sand and Squaw or Wier horizons, so that the estimate of 7 million cubic feet of gas under each acre of this territory as reduced by the depletions above estimated, will be entirely conservative. Performing the necessary multiplication, we get: 21,826.18 × 7,000 × .04 = $6,111,000.00 in round numbers as the money value of the gas still remaining in the ground under the developed areas owned by the United Fuel Gas Company on March 1st, 1913.

The undeveloped and unoperated area of leaseholds owned by the United Fuel Gas Company in 9 counties of Eastern Kentucky totaled 82,960.03 acres, while one county (Lawrence), of southern Ohio held 8,132.50 acres, and 13 counties of West Virginia from Roane and Jackson soutwest to the Kentucky-West Virginia line contained 738,334.73 acres, or a grand total of 829,427.26 acres of undeveloped gas areas acquired at a total cost of $6,036,611.05 for bonuses, leasing expenses and other necessary expenditures in connection with securing, recording, and holding such a large body of leaseholds, as shown by the following detailed schedule:

UNITED FUEL GAS COMPANY.

Unoperated Acreage, March 1st, 1913.

KENTUCKY	Acreage		Cost
Boyd County	2,350.22	$	2,819.24
Carter County	878.00		11.00
Greenup County	4,736.75		648.82
Johnston County	3,153.00		1,232.57
Magoffin County	9,231.00		58.00
Lawrence County	5,533.00		1,447.45
Martin County	50,670.06		43,215.12
Morgan County	1,544.00		13.00
Owsley County	4,864.00		42.00
Miscellaneous Lots			75.00
Total Kentucky	82,960.03	$	49,562.20
OHIO			
Lawrence County	8,132.50	$	1,420.36

WEST VIRGINIA

Crook District, Boone County	3,071.50	$ 2,345.50
Peytonia District, Boone County	3,516.00	2,647.57
Scott District, Boone County	26,378.18	26,117.75
Sherman District, Boone County	3,378.66	2,398.92
Washington District, Boone County	14,116.83	12,229.90
Barboursville District, Cabell County	248.50	106.00
Grant District, Cabell County	6,097.92	4,674.11
Guyandotte District, Cabell County	325.00	522.00
McComas District, Cabell County	2,460.58	1,897.33
Lee District, Calhoun County	9.37	.50
Henry District, Clay County	27,509.92	30,120.40
Otter District, Clay County	1,068.00	23.00
Pleasant District, Clay County	18,851.35	18,500.97
Union District, Clay County	15,055.59	52,537.72
Falls Creek, Fayette County	560.00	21.25
Ravenswood District, Jackson County	40.50	5.00
Ripley District, Jackson County	5,321.50	678.53
Washington District, Jackson County	21,545.05	23,609.01
Big Sandy District, Kanawha County	43,947.68	1,006,638.57
Cabin Creek District, Kanawha County	27,213.73	8,973.63
Charleston District, Kanawha County	1,488.07	19,295.75
Elk District, Kanawha District	131,596.91	304,435.14
Jefferson District, Kanawha County	4,960.50	2,633.02
Louden District, Kanawha County	9,414.50	2,412.39
Malden District, Kanawha County	18,669.00	8,057.28
Poca District, Kanawha County	15,671.90	13,343.27
St. Albans District, Kanawha County	5.00	75.00
Union District, Kanawha District	4,447.50	1,892.42
Washington District, Kanawha County	2,563.00	1,416.35
Carroll District, Lincoln County	624.50	83.20
Duval District, Lincoln County	11,667.13	11,384.98
Harts Creek District, Lincoln County	581.00	553.00
Jefferson District, Lincoln County	2,834.00	2,682.95
Laurel Hill District, Lincoln County	835.00	107.00
Sheridan District, Lincoln County	355.56	166.50
Union District, Lincoln County	2,296.00	1,831.00
Washington District, Lincoln County	2,128.00	2,061.80
Chapmansville District, Logan County	9,402.40	8,859.91
Logan District, Logan County	11,873.00	6,147.95
Hardee District, Mingo County	10,590.15	4,734.98
Harvey District, Mingo County	4,187.17	2,215.17
Warfield District, Mingo County	8,611.40	3,078.25
Curry District, Putnam County	5,103.00	3,053.79
Poca District, Putnam County	76.00	66.52
Scott District, Ptnam County	171.00	42.75
Teays Valley District, Putnam County	85.00	181.88
Curtis District, Roane County	18,016.72	354,932.43

Geary District, Roane County	48,994.86	1,672,910.16
Harper District, Roane County	23,393.50	56,145.50
Reedy District, Roane County	3,870.50	5,527.28
Smithfield District, Roane County	32,194.82	1,077,205.31
Spencer District, Roane County	38,307.21	383,316.96
Walton District, Roane County	28,837.17	777,905.32
Butler District, Wayne County	22,046.00	35,199.54
Ceredo District, Wayne County	1,946.02	135.67
Grant District, Wayne County	327.00	71.25
Lincoln District, Wayne County	9,093.50	12,723.59
Stonewall District, Wayne County	4,331.32	638.20
Union District, Wayne County	26,023.50	11,426.87
Miscellaneous Lots		3,630.50
Total West Virginia	738,334.73	$5,985,628.49
Total Kentucky	82,960.03	49,562.20
Total Ohio	8,132.50	1,420.36
Grand Total	829,427.26	$6,036,611.05

Much of this great area is situated in the immediate and contiguous regions where natural gas and oil had already been developed in commercial volume, and along structural or anticlinal lines of rock disturbance where valuable deposits of natural gas and oil tend to accumulate. The percentage of this total acreage of undeveloped leaseholds that would eventually prove commercially valuable for gas can only be approximately estimated as a matter of judgment from its location with reference to developments already made, and from its position with reference to geologic structure. Taking both of these factors into consideration as shown upon the structural and economic geologic maps of the West Virginia Geological Survey which cover the entire area of the West Virginia leaseholds of this Company, and also making use of the writer's personal knowledge of the trend of geologic structure into the Kentucky and Ohio areas of these leaseholds, it is his best judgment that at least 15 per cent. of the unoperated acreage (829,427.26) in question owned by the United Fuel Gas Company on March 1st, 1913, or 124,414.09 acres, would eventually prove to be good average commercial gas lands, but as it may have suffered some depletion from developed wells on adjoining properties, we shall figure the quantity of gas under each of the 124,414.09 acres of commercial leaseholds at only 5 million

cubic feet instead of its original contents of 7 million, and doing this we get 124,414.09 × 5,000 × .04 — $24,882,818.00 as the value of the gas under the total undeveloped 829,427.26 acres of leaseholds owned by the United Fuel Gas Company on March 1st, 1913, and that this valuation is very conservative, and probably much below the true one, may be further inferred from the fact that it is only slightly more than four times the actual cost ($6,036,611.05) of the same up to the date in question.

It remains now to affix a valuation on the 2,750.65 acres of leaseholds upon which oil had been discovered previous to March 1st, 1913, the wells upon which had yielded a net total of 445,992 barrels of oil of Pennsylvania grade during the calendar year of 1912, at a net profit of $661,565.18 to the United Fuel Gas Company, and which during the month of February, 1913, produced 21,050.97 barrels of the same grade of oil, or an average of 751.82 barrels daily. During the month of February in the Appalachian fields, the oil wells as a rule produce at the minimum rate for the entire year on account of severe cold, frozen steam and water pipes, and the general stoppage of field work caused by severe winter weather conditions. This is also reflected in the fact that the average daily production of the property during the 12 months of the year 1912 was slightly over 1200 barrels daily, so that the oil production for February, 1913, is necessarily considerably under the potential capacity of the wells.

The investment in drilling the wells and putting them in productive operation on this 2,750.65 acres of leaseholds up to March 1st, 1913, was $495,220.85, while the leases themselves had cost $69,947.00 at the same date or a combined investment of $565,167.85. The question is what was the value of this investment which was producing 751.82 barrels of Pennsylvania grade oil daily in March 1st, 1913, when the regular market for this grade of oil was quoted at $1.50 per barrel, and the oil operations on the same properties for the calendar year of 1912 had yielded a net profit of $661,585.18. At this date (March 1st, 1913), small oil properties in West Virginia, Pennsylvania and Southeastern Ohio white sand oil fields were occasionally selling at approximately $2,000 per barrel of settled daily production, but such figures do not truly represent the

actual value of such properties, because the purchaser always expects to realize at least double the amount of the purchase price and frequently much more. Hence, in view of the reduced daily production during February usually far below the average for the year, and also on account of the fact that the small sales of oil production are generally much below the actual values, the writer considers that the sum of $3,000 per barrel for the daily production of oil on the 2,750.65 acres of leaseholds developed for oil by the United Fuel Gas Company in Kanawha and Roane Counties, West Virginia, on March 1st, 1913, would be entirely conservative and below rather than above the actual value of the oil development in question. This estimate of daily barrel production would yield the following results:

751.82 × $3,000 = $2,255,460.00 as the minimum cash value of the developed oil acreage on March 1st, 1913, including the expenditures of $565,167.85 on the 2,750.65 acres of developed oil lands, which without any deductions for depreciation of oil well machinery and equipment, would leave a net value for the oil remaining in the ground on these developed leaseholds in question of ($2,255,460.00 — $565,167.85) $1,690,292.15 or $1,690,292.15 ÷ 2,750.65 = $610.87 per acre.

There remains now to consider the undeveloped oil values on the 829,427.26 acres of untested leaseholds which had been acquired by the United Fuel Gas Company in the States of Ohio, Kentucky and West Virginia, previous to March 1st, 1913, and were owned by this Company at that date. Of this vast leasehold estate, 738,334.73 acres were located in 13 counties of West Virginia, extending from Roane County southwestward to and including Cabell, Wayne and Mingo at the West Virginia-Kentucky line, costing the Company in bonuses, etc., etc., etc., up to this latter date a total of $5,985,628.49. In 9 counties of Kentucky directly southwest from the West Virginia leaseholds just mentioned, the Company had acquired 82,960.02 acres of untested leaseholds, at a cost of $49,562.20 as of March 1st, 1913, while in Lawrence County of Southern Ohio, 8,132.50 acres were owned on the same date at an expenditure of $1,420.20, the entire grand total of 829,427.26 acres of undeveloped (for oil) leaseholds covering the areas

mentioned in the 3 states having cost the United Fuel Gas Company up to March 1st, 1913, the sum of $6,036,611.05, as shown by the detailed schedule on page 7 of this Report.

Productive oil lands, as a rule in the Appalachian fields, are far less extensive in acreage than that of gas lands, a fair approximation of this ratio being about 1 acre of productive oil acreage to 15 of productive gas acreage, or say 1 per cent of the total leaseholds acquired for probable oil and gas developments along good structural and geologic lines as in this particular case. This estimate of 1 per cent, which is surely conservative would give an area of 8,294.27 acres of most probable oil leaseholds containing valuable deposits of petroleum occurring within the entire extent of the undeveloped leaseholds aggregating 829,427.26 acres owned by the United Fuel Gas Company March 1st, 1913. What were the oil values locked up in these 8,294.27 acres of undeveloped oil lands? We have just seen that the 2,750.65 acres of developed oil leaseholds had at this same date a selling value of $1,690,252.15, or $610.87 per acre after deducting the entire cost of development, and hence it would be erring on the side of conservatism to place the oil values in these 8,294.27 acres of undeveloped lands at $500 per acre. This estimate would give 8,294.27 × 500 = $4,147,135.00 as the very probable value of the oil under the entire undeveloped area of 829,427.26 acres of oil leaseholds owned by the United Fuel Gas Company March 1st, 1913, and none of this estimated oil acreage had suffered to any measurable extent from depletion, as had the 2,750.65 acres of developed oil lands which gave the value of $610.87 per acre as of the date (March 1st, 1913) in question.

Summary

Aggregating now the several values determined, we get the following for the total value of the oil and gas leaseholds owned by the United Fuel Gas Company on March 1st, 1913, after discarding the hundreds and decimals:

Value of natural gas under developed leaseholds	$ 6,111,000.00
Value of natural gas under undeveloped leaseholds	24,883,000.00
Value of developed oil leaseholds	2,255,000.00
Value of undeveloped oil leaseholds	4,147,000.00
Total value of the oil and gas under the leaseholds owned by United Fuel Gas Company, March 1st, 1913	$37,396,000.00

THE VALUE OF NEW DISCOVERIES AND DEVELOPMENTS ON THE LEASEHOLDS OF THE UNITED FUEL GAS COMPANY AS OF DECEMBER 31st, 1918

The following detailed schedules represent the operated and unoperated leaseholds owned by the United Fuel Gas Company and their cost as of December 31st, 1918:

UNITED FUEL GAS COMPANY.

Operated Gas Acreage, December 31st, 1918 (*)

KENTUCKY	Acreage	Cost
Martin County	4,626.50	$ 4,723.11
WEST VIRGINIA		
Scott District, Boone County	700.00	951.45
Washington District, Boone County	60.00	46.00
Union District, Clay County	1,543.50	13,959.21
Washington District, Jackson County	3,122.82	10,781.02
Big Sandy District, Kanawha County	8,551.10	271,467.77
Cabin Creek District, Kanawha County	2,590.00	10,354.89
Elk District, Kanawha County	3,119.00	35,374.28
Louden District, Kanawha County	50.00	100.00
Duval District, Lincoln County		
Jefferson District, Lincoln County	100.00	
Chapmansville District, Logan County	596.00	611.97
Logan District, Logan County	100.00	
Harvey District, Mingo County	500.00	504.45
Warfield District, Mingo County	1,125.00	847.00
Curry District, Putnam County	184.00	161.06
Teays Valley, Putnam County	100.00	100.00
Curtis District, Roane County	4,602.00	209,758.93
Geary District, Roane County	11,180.24	570,481.47
Harper District, Roane County	105.25	895.74
Smithfield District, Roane County	2,505.91	116,222.42
Spencer District, Roane County	4,456.75	132,231.37
Walton District, Roane County	6,914.47	323,624.42
Union District, Wayne County	42.00	43.00
Total West Virginia	52,248.04	$1,698,516.45
Grand Total	56,874.54	$1,703,239.56

(*) This acreage does not represent proven acreage. It represents only the acreage in those certain leases on which wells have been drilled and by such drilling has been placed on a royalty basis instead of delay rental basis. In case of large tracts, the rule has been to consider only 160 acres per well as being in the same class as that mentioned above.

UNITED FUEL GAS COMPANY.

Operated Oil Acreage, December 31st, 1918 (*)

WEST VIRGINIA	Acreage	Cost
Big Sandy District, Kanawha County	1,238.00	$ 37,624.90
Elk District, Kanawha County	1,687.25	22,994.39
Cabin Creek District, Kanawha County	2,100.00†	823.20
Total Kanawha County	5,025.25	$ 61,442.49
Curtis District, Roane County	174.90	6,705.18
Harper District, Roane County	30.00	16.96
Smithfield District, Roane County	10.00	12.50
Spencer District, Roane County	172.00	6,988.92
Walton District, Roane County	480.00	24,001.00
Total Roane County	866.90	$ 37,724.56
Union District, Clay County	1,049.50	117,152.43
Duval District, Lincoln County	900.00	1,232.17
Total West Virginia	7,841.65	$ 217,551.65
KENTUCKY		
Martin County	77.60	$ 78.85
Grand Total	7,919.25	$ 217,630.50

(*) This acreage only includes those tracts on which oil wells are actually drilled.

†This acreage represents only 100 acres per well, and does not include entire tract.

UNITED FUEL GAS COMPANY.

Unoperated Acreage, December 31st, 1918.

KENTUCKY	Acreage	Cost
Carter County	160.00	$ 5.00
Elliott County	11,035.50	668.56
Floyd County	7,540.00	1,287.66
Greenup County	19,618.00	570.59
Johnston County	637.00	439.00
Lawrence County	20,259.00	1,113.95
Lewis County	100.00	3.00
Magoffin County	1,482.00	87.57
Martin County	36,882.79	30,189.44
City of Inez, Martin County	1.50	1,050.00
Miscellaneous Lots		4,404.51
Total Kentucky	97,725.79	$ 39,819.28

OHIO		
City of New Boston, Scioto County	.14	$ 445.90
Miscellaneous Lots		2,135.64
Total Ohio	.14	$ 2,581.54
WEST VIRGINIA		
Crook District, Boone County	3,447.00	$ 1,007.75
Peytonia District, Boone County	1,874.00	1,041.51
Scott District, Boone County	18,648.00	22,223.74
Sherman District, Boone County	2,599.50	1,114.22
Washington District, Boone County	1,639.00	869.15
Grant District, Cabell County	9,540.40	7,817.16
McComas District, Cabell County	462.00	37.00
Union District, Cabell County	307.50	38.90
Henry District, Clay County	20,301.67	63,482.95
Pleasant District, Clay County	9,178.75	7,639.87
Union District, Clay County	14,095.89	53,637.95
Falls District, Fayette County	3,050.00	820.25
Kanawha District, Fayette County	473.36	1,700.80
Center District, Gilmer County	19.50	45.60
Ravenswood District, Jackson County	206.22	884.55
Ripley District, Jackson County	15,530.50	2,159.27
Ravenswood District, Jackson County (Silverton)	1.00	189.00
Union District, Jackson County	196.00	2.00
Washington District, Jackson County	15,984.18	41,223.73
Big Sandy District, Kanawha County	36,988.41	833,241.06
Cabin Creek District, Kanawha County	31,565.34	52,521.13
Charleston District, Kanawha County	1,885.70	4,334.76
Elk District, Kanawha County	108,210.54	227,481.44
Jefferson District, Kanawha County	442.50	225.55
Louden District, Kanawha County	10,827.50	3,053.99
Malden District, Kanawha County	24,700.11	14,064.12
Poca District, Kanawha County	14,261.12	13,490.65
Union District, Kanawha County	3,263.99	4,716.38
Washington District, Kanawha County	353.00	344.90
Carroll District, Lincoln County	416.00	66.96
Duval District, Lincoln County	10,383.45	10,097.57
Jefferson District, Lincoln County	10,883.00	2,463.18
Laurel Hill, Lincoln County	537.00	31.50
Sheridan District, Lincoln County	255.00	38.50
Union District, Lincoln County	2,683.50	1,562.00
Washington District, Lincoln County	657.00	705.16
Chapmansville District, Logan County	4,634.50	3,456.85
Logan District, Logan County	2,179.00	1,014.00
Carried Forward	382,681.13	$1,378,844.60

WEST VIRGINIA	Acreage	Cost
West Virginia Brought Forward	382,681.13	$1,378,844.60
Cooper District, Mason County	124.50	4.00
Hanan District, Mason County	945.00	34.54
Hardee District, Mingo County	58.00	7.50
Harvey District, Mingo County	1,939.17	1,528.01
City of Kermit, Mingo County	61.00	10,477.00
Maynard District, Mingo County	61.50	
Warfield District, Mingo County	6,016.00	2,172.55
Buffalo, District, Putnam County	562.00	191.43
Curry District, Putnam County	5,971.75	5,393.44
Curry Sub-District, No. 1, Putnam County	140.00	140.00
City of Hurricane, Putnam County	2.00	103.00
Scott District, Putnam County	377.50	103.09
Duval District, Putnam County	10,231.00	4,643.01
Curtis District, Roane County	12,703.46	261,719.58
Geary District, Roane County	39,591.57	1,355,571.42
Harper District, Roane County	7,816.27	29,453.86
Reedy District, Roane County	1,160.50	2,845.50
Smithfield District, Roane County	23,108.86	902,244.02
Spencer District, Roane County	19,281.34	214,079.73
Walton District, Roane County	17,329.36	629,365.36
Butler District, Wayne County	8,463.00	24,851.17
Ceredo District, Wayne County	1.02	316.02
Grant District, Wayne County	120.00	6.00
Lincoln District, Wayne County	2,952.00	8,730.83
Stonewall District, Wayne County	196.00	209.92
Union District, Wayne County	298.00	97.38
Miscellaneous Lots		35,867.42
Total West Virginia	542,191.93	$4,869,000.98
Grand Total	639,917.86	$4,911,401.80

The following schedule also represents the total cash investment in connection with these leaseholds as of December 31st, 1918:

STATEMENT OF INVESTMENT

December 31st, 1918.

Operated Gas Acreage (56,874.54 acres)	$ 1,703,239.56
Unoperated Gas Acreage (639,917.86 acres)	4,911,401.80
Cost of Gas Wells	3,699,147.22
Oil Investment	1,506,132.26
Oil Acreage (7,919.23 acres)	217,630.50
Total	$12,037,551.34

Main, Field and Well Conn. Lines and Street Mains	$ 8,737,217.67
Regulators, Meters, etc	387,356.31
Telegraph and Telephone Lines	104,885.41
Office Furniture	35,928.09
Buildings	224,027.47
Tools	129,788.61
Compressor Stations	982,653.01
Service Lines	188,497.32
Horses, Wagons, Autos	29,026.45
Gasoline Stations	953,654.83
Adjustments	1,011,610.74
Discount on Bonds	192,532.85
Total	$12,977,178.76
Grand Total	$25,014,730.10

Much new and prolific gas territory was developed, and several new oil pools discovered after March 1st, 1913, and previous to December 31st, 1918, which added greatly to the value of the properties. Then, too, the recovery of gasoline from natural gas which was not put into operation by the United Fuel Gas Company until 1916, both by the "compression system" from casing-head gas, and by the "absorption system" for the pipe line gas, proved immensely profitable, the net earnings on gasoline recovery increasing from $299,293.45 during the calendar year of 1916 to $1,516,989.92 for 1917, and to $1,876,933.30 for the calendar year of 1918. In the meantime through securing a more adequate price for natural gas and through the construction of gasoline recovery plants, the net profits of the United Fuel Gas Company increased from 4 cents per 1,000 cubic feet on the 28⅓ billion (in round numbers), cubic feet of gas marketed in 1912, to 6⅓ cents per 1,000 cubic feet on the 57 billion cubic feet of gas marketed during the entire calendar year of 1918, while an additional net income of 3⅓ cents per 1,000 cubic feet was secured from the 55 billion cubic feet of this gas treated for gasoline recovery during the same year, thus making the net profits on all the natural gas handled approximately 9⅔ cents per 1,000 cubic feet for the year 1918, against only 4 cents per 1,000 cubic feet for the year 1912 and at the date of March 1st, 1913. These net profits per 1,000 cubic feet of gas marketed will also tend

to increase in the immediate future; viz.: from the fact that gasoline content increases as the wells increase in age, especially from "casing-head" gas, and then, too, the prospects of securing higher prices for natural gas in view of its early exhaustion and great heating value are very promising. Of course, this more than doubled profits per 1,000 cubic feet of gas marketed as of December 31st, 1918, over the same quantity marketed at the date of March 1st, 1913, and the increase in the market price of crude oil from $1.50 per barrel as of March 1st, 1913, to $4.00 per barrel as of December 31st, 1918, will be reflected in the increased acreage values of new oil and gas discoveries made subsequent to March 1st, 1913, and extending up to December 31st, 1918.

One of the new gas fields discovered is a large pool of Berea Sand gas, known as the Statts Mill pool in Washington District, Jackson County, West Virginia. The wells have high rock pressures and large volumes, the rock pressure running from 500 to 900 pounds to the square inch, and the initial open flow volume varying from a well of 1 million cubic feet drilled in on June 3, 1917, with a rock pressure of 830 pounds to one with initial open flow volume of 22 million cubic feet, completed February 27th, 1918, with rock pressure of 710 pounds to the square inch. The developed leaseholds of this new Statts Mills Berea Sand gas field of Washington District, Jackson County, covered an area of 3,123 acres on December 31st, 1918, while the undeveloped leaseholds many of which lie on the same geologic structure, totaled 15,984 acres in Washington District, while the Company owns undeveloped leaseholds aggregating 15,500 acres on the same geologic structure or trend of the developed area of Washington District, in the adjoining District of Ripley, Jackson County. Berea Sand gas (of the Appalachian fields), is usually richer in gasoline contents than the gases from the other geologic horizons, "casing-head" gas from this Berea Sand having reported yields of 5 to 9 gallons of gasoline per 1,000 cubic feet in Brooke County, West Virginia, thus vying in gasoline content with that of the famous Bartlesville Sand of Oklahoma.

In affixing values to new developments in oil and gas since March 1st, 1913, and as of December 31st, 1918, for these new discoveries, a considerable increase in some of the factors

that enter into the calculation must be made, since as already stated, the net profits of the United Fuel Gas Company on sales of natural gas had grown from 4 cents per 1000 cubic feet as of March 1st, 1913, to 4.2 cents for the calendar year of 1915, 5 cents for 1916, $9\frac{1}{3}$ cents (including profits of 2.5 cents on gasoline), for 1917, and $9\frac{2}{3}$ cents per 1,000 cubic feet (including $3\frac{1}{3}$ cents on gasoline), for 1918, and since the richness of all natural gas in gasoline tends to increase with the age of the wells and especially the "casing-head" gas derived from oil wells, this new factor will largely compensate for the rapid depletition that always takes place in all heavily operated gas leaseholds. Hence as the United Fuel Gas Company is now treating practically all of its gas for gasoline recovery, we shall use a factor of 6 cents per 1,000 cubic feet for the value of natural gas in the ground under developed leaseholds instead of 4 cents as of March 1st, 1913. Applying this larger factor to the 3,123 acres of newly discovered Berea Sand gas area developed in Washington District in 1917 and 1918, and allowing for a gas depletion of 2 million feet per acre (from the Salt and Big Injun Sands), up to December 31st, 1918, from the original gas content of 7 million cubic feet per acre, we get the following values at the date in question (December 31st, 1918), for the gas on these newly developed leaseholds of Washington District, Jackson County, West Virginia: $3,123 \times 5,000 \times .06 = \$936,900.00$. The adjoining undeveloped leaseholds in Washington District totaling 15,984 acres lie practically on the same structural and geological trend as the developed area, and if we figure only 50 per cent of the undeveloped leaseholds of this District as commercial gas area in the Berea Sand, we would get a value figured on the same basis as the developed leaseholds of $(7,982 \times 5,000 \times .06)$ $2,397,600.00 for the Berea Grit gas under the undeveloped leaseholds of 15,984 acres owned by the United Fuel Gas Company in Washington District, Jackson County, West Virginia, on December 31st, 1918.

As stated above, the 15,500 acres untested leaseholds owned by the United Fuel Gas Company in Ripley District, Jackson County lie in the same geological trend and structure immediately southwest from the developed Berea Sand gas areas of Washington District and hence give good promise of

proving richly productive and are therefore practically in the same class with the undeveloped Berea gas leaseholds of Washington District, a large percentage of whose area is regarded as commercially productive. These 15,500 acres of undeveloped gas lands in Ripley District, Jackson County, owned by the United Fuel Gas Company December 31st, 1918, lie as a body 3 to 4 miles farther from the new developments in Washington District than do the undeveloped leaseholds of that district, and hence only 40 per cent of the same, or 6,200 acres, may be regarded as most probably commercially valuable. Estimated on this basis the following value results for these 15,500 acres of undeveloped leaseholds in Ripley District, Jackson County, as of December 31st, 1918; viz.: 6,200 × 5,000 × .06 = $1,860,000.00. This sum added to the other two found for the value of the developed and undeveloped leaseholds in the Berea Sand of Washington District, Jackson County, give ($936,900 + $2,397,600 + $1,860,000), a total of $5,194,200.00 as the new values developed from the discovery of the Statts Mills field of Berea Sand gas in the two districts of Jackson County, West Virginia, above mentioned. Another new discovery of oil and gas of great value to the United Fuel Gas Company made subsequent to March 1st, 1913, is that of the very rich pools of both gas and oil on Cabin and Kelly Creek in Cabin Creek District of Kanawha County, West Virginia, commercial deposits of gas being discovered in the Big Injun, Wier and Berea Sands, and commercial deposits of oil in the Wier Sand on Kellys Creek, and in the Berea Sand on the waters of Cabin Creek, Kanawha County.

Within Cabin Creek magisterial District the United Fuel Gas Company owns 2,580 acres of gas leaseholds developed since March 1st, 1913, and computing their value as of December 31st, 1918, in the same manner as for those in Washington District of Jackson County, West Virginia, we get the following results: 2,580 × 5,000 × .06 = $777,000.00. Outside of this developed area the United Fuel Gas Company also owns leaseholds in Cabin Creek District amounting to 31,500 acres which from developments made since March 1st, 1913, would appear to have at least 40 per cent of their areas or 12,600 acres in the same class with the 2,950 developed acreage, and by the same formula its value would be (12,600 × 5,000 × .06), $3,780,000.00.

Besides this large gas leasehold in Cabin Creek magisterial District which has been rendered quite valuable by developments made since March 1st, 1913, the United Fuel Gas Company has also developed a very valuable oil production in the Berea Grit Sand on the waters of Cabin Creek near Miami, Kanawha County, on the Imperial Coal Company lease of 2,100 acres and two others, having invested therein since March 1st, 1913, the sum of $385,284.94, and which leaseholds yielded for the month of December, 1918, a total net production of 11,857.07 barrels of oil, an average of 382.48 barrels of daily fairly settled production, easily worth $6,000 per barrel (since sales of this grade of oil production have recently been made on that basis in the Appalachian field), or (382.48 × 6,000) $2,294,880.00. This production is obtained from about 600 acres of developed oil lands, and on this tract about 500 acres more would appear to be in the same productive class and worth at least $2,000.00 per acre, or $1,000,000.00

The United Fuel Gas Company through its ownership of the stock of the Cabin Creek Gas Company, owns all the gas and one-half the oil under the 8,000-acre Ward tract and all the oil and gas on the 1½ acre C. C. Lewis lot near Mammoth on Kelly Creek in Cabin Creek District, Kanawha County, West Virginia, where a splendid development of Big Injun Gas and Wier Sand oil has taken place since March 1st, 1913. About 3,000 acres of the Ward tract has been developed for gas, and the wells thereon have been putting a large quantity of gas into the United Fuel Gas Company's lines during 1917 and 1918, so that the field has probably suffered depletion to the extent of 3½ million cubic feet per acre or 50 per cent by both use and the large waste of gas through numerous oil wells drilled on town lots in the vicinity of Mammoth on Kelly Creek. Hence on December 31st, the 3,000 acres of developed gas on the Ward tract would have a value of approximately (3,000 × 3,500 × .06) $630,000.00, and the gas on the remaining 5,000 acres 40 per cent of which or 2,000 acres may be regarded as in the class with the 3,000 acres of developed lands would have a prospective value of (2,000 × 3,000 × .06) $420,000.00, or a total of (630,000 + 420,000) $1,050,000.00 for the gas on the entire tract.

The net 1/2 of the oil production on the Ward tract for December, 1918, was 6,741.7 barrels, since not all of the gas wells in the Big Injun Sand above have been drilled down to the oil horizon in the Wier Sand 40 to 60 feet lower on account of the desire of the United Fuel Gas Company to conserve the overlying gas from waste. However, from the developments that have taken place, it would seem almost sure that 500 to 600 acres of the Ward tract would be within the already developed oil zone, and $1,250 an acre would be a very moderate estimate of the value of the 1/2 the oil thereunder which would give (500 × 1,250) $625,000.00 as the value of 1/2 the oil under the Ward tract including that already developed amounting in December, 1918, to about 218 barrels daily. Then the Cabin Creek Gas Company owns all the oil in the C. C. Lewis lot of 1/2 acre in the town of Mammoth where the one well on about 1/2 of an acre is surrounded by several other wells. It was completed in early November, 1918, and in December, 1918, was averaging about 100 barrels daily, but declining rapidly on account of proximity of other wells, so that its value to the Cabin Creek Gas Company on December 31st, 1918, was probably not over $100,000. Adding these several estimates of the Cabin Creek Gas Company's properties together we get ($630,000 + $120,000 + $625,000 + $100,000) $1,775,000.00 for the total of that Company's interest in the 8,000 acres of the Ward leasehold and this value ($1,775,000.00) developed since March 1st, 1913, belongs entirely to the United Fuel Gas Company through its ownership of the Cabin Creek Gas Company.

Louden District, Kanawha County, adjoins Cabin Creek District on the west and in it since March 1st, 1913, several gas wells of a capacity of 75,000 to 2,000,000 cubic feet have been drilled, the gas occurring in both the Big Injun and Berea Sands. On account of the small size of the wells and some depletition, the leaseholds there would probably not average more than 2 million cubic feet of gas content per acre on December 31st, 1918. The United Fuel Gas Company held 10,800 acres of leaseholds in this Louden District on December 31st, 1918, of which it is estimated that about 40 per cent., or 4,320 acres would hold gas in commercial quantity. The value of this acreage, according to the formula used for the

other districts as of December 31st, 1918, would be (4,320 × 2,000 × .06) $518,400.00.

Another Big Injun Sand gas field lying in the region where 3 counties of West Virginia corner; viz.: Kanawha, Roane and Clay, covering portions of Geary District of Roane, Big Sandy District of Kanawha, and Union District of Clay County, and containing a leasehold of 23,000 acres, was greatly extended and rendered much more valuable through drilling operations subsequent to March 1st, 1913, by the discovery of a new and lower gas producing horizon in the Squaw, or Wier Sand below the Big Injun Horizon. Probably 20 per cent of this 23,000-acre leasehold or 4,600 acres contains this lower productive gas deposit that would average about 3 million cubic feet of gas per acre on December 31st, 1918, and would therefore have a value of (4,600 × 3,000 × .06) $828,000.00 as of that date.

No accurate estimate can be made of the value of the gasoline recovery plants constructed and installed by the United Fuel Gas Company since March 1st, 1913, at a cost of nearly one million dollars ($953,654.83), but the output of gasoline from these several (6) "absorption" and (2) "compression" plants beginning with 1,849,056 gallons for the year 1916, bringing a net profit of $299,293.45, increasing to 9,368,113 gallons in 1917, and to 10,338,184 gallons in 1918 with net profits of $1,516,989.12 and $1,876,933.03 respectively, demonstrates the immense financial success of the new investment. These gasoline recovery plants already completed have capacity sufficient to treat practically all the gas produced and purchased by the United Fuel Gas Company before marketing the treated gas and hence cannot fail to take up and replace in profits practically all of the depletion of the developed gas fields that has taken place since March 1st, 1913, up to and including the year 1916, and hence instead of placing a specific valuation upon this new gasoline recovery business entered into by the United Fuel Gas Company since March 1st, 1913, adding 3 cents or more of net value to every 1,000 cubic feet of natural gas treated, it may be considered as a practically complete financial offset to any depletion and depreciation that may have taken place in the developed gas fields of the Company for the years 1913, 1914, 1915, and 1916.

Summary of December 31st, 1918, Valuations

Assembling the valuations of new gas and oil developments and discoveries of the United Fuel Gas Company since March 1st, 1913, and affixing values thereon as of December 31st, 1918, according to the fairly reliable factors used in the foregoing detailed discussion, the following total is obtained:

3,123 acres of developed Berea Grit gas lands, Washington District, Jackson Co., W. Va	$ 936,900.00
7,992 acres of undeveloped Berea Grit gas lands, Washington District, Jackson Co., W. Va	2,397,600.00
6,200 acres of undeveloped Berea Grit gas lands, Ripley District, Jackson Co., W. Va	1,860,000.00
2,590 acres of developed gas leaseholds, Cabin Creek District, Kanawha Co., W. Va	777,000.00
12,600 acres of undeveloped gas leaseholds, Cabin Creek District, Kanawha Co., W. Va	3,780,000.00
382.48 bbls. of daily settled oil production from 600 acres developed in Cabin Creek pool	2,294,880.00
500 acres of undeveloped Cabin Creek oil lands adjoining above	1,000,000.00
Cabin Creek Gas Company's interest in oil and gas on the 8,000 acre Ward tract	1,775,000.00
Cabin Creek Gas Company's interest in oil on C. C. Lewis lot, Mammoth, Kelly Creek	100,000.00
Louden District gas on leasehold of 10,800 acres Big Injun and Berea Sands	518,400.00
Squaw and Wier Sand gas, on 23,000 acres, corner Roane, Kanawha and Clay Counties	828,000.00
Total value of new discoveries of oil and gas subsequent to March 1st, 1913, estimated as of December 31st, 1918, in round numbers	$16,268,000.00
Adding values as of March 1st, 1913	37,296,000.00
We get a Grand Total of	$53,564,000.00

If we deduct from this an allowance of $3,564,000 for depreciation of the oil and gas fields during 1917 and 1918, we get a final valuation of $50,000,000.00 for the oil and gas

properties of the United Fuel Gas Co., as of December 1st, 1918, of which in round figures $40,000,000.00 would represent the gas valuation and $10,000,000.00 the oil values.

(Signed) I. C. WHITE,
State Geologist of West Virginia.

Morgantown, W. Va.,
April 18th, 1919.

Mr. R. G. Altizer, Vice President,
United Fuel Gas Company,
Charleston, W. Va.

Dear Sir:

In my estimate of the values of the leaseholds owned by your Company, I have taken no account of the value of your investment in pipe lines, mains, connections, pump stations, gasoline plants, etc. Your books reveal an investment of $12,977,178.76 in main, field, well connections, street mains, regulators, meters, telegraph and telephone lines, buildings, office furniture, tools, compressor stations, service lines, horses, wagons, autos, gasoline stations, etc., etc. Of course, there has been considerable depreciation on this physical equipment during the 6 to 8 years of use, probably amounting to 20 per cent., but, on the other hand, the plant in question could not be reproduced at present day prices for probably $20,000,000.00 in round figures, so that whatever values should attach to this investment in transportation and mechanical agencies used in the marketing of gas should be added to my estimate of the value of your leaseholds, since if the natural gas should suddenly all disappear, there would remain even then a considerable salvage value in everything except the leaseholds themselves. In fact, it is quite probable that when the natural gas is exhausted, much of the physical equipment used in marketing the same can still be utilized in the transportation of manufactured gas to the same clients who, through the use of natural gas, have been educated to realize the great convenience and comfort of gaseous fuel compared to wood or coal.

(Signed) I. C. WHITE,
State Geologist of West Virginia.

May 14th, 1919.

Exhibit B—5.

COMMONWEALTH OF KENTUCKY

Before the Railroad Commission

CITY OF CATLETTSBURG, MUNICIPAL CORPORATION,
Plaintiff,
vs.
UNITED FUEL GAS COMPANY,
Defendant.

Overcharge for Natural Gas Intervening Petition of the City of Louisa, Ky., to be Made Party

(1) The plaintiff, the City of Louisa, is a municipal corporation of the fifth class, as cities are classified under the laws of the State of Kentucky, and is located in Lawrence County, adjoining the County of Boyd, in which is located the City of Catlettsburg, the complainant herein, and the City of Louisa is interested in and affected by this litigation—is likewise being over-charged for natural gas by the defendant gas company, and files this intervening petition and asks to be joined with the City of Catlettsburg as a party plaintiff in said action against said defendant.

(2) That the United Fuel and Gas Company is a corporation duly created and organized and existing under and by virtue of the laws of the State of West Virginia, with its principal office and place of business at Charleston, in said State, and the owner of the property used for the production, transportation and distribution and sale of natural gas as a fuel for domestic and industrial purposes to domestic and industrial consumers in the City of Louisa, Lawrence County, Kentucky, which said

City is located approximately at the source of supply of the defendant gas company.

(3) That on or about the 2nd day of August, 1898, at which time the City of Louisa was a City of the fifth class, a sale of the right to use the streets and alleys for the purpose of laying mains and doing such other work as might be necessary in the distribution and sale of natural gas to the citizens of said citizens within said City Limts and the transportation of gas through the City for sale and distribution elsewhere, and to this end a franchise ordinance was passed and the Tripple State Gas & Oil Company purchased said franchise and became the owners of all of the rights and privileges therein stipulated, copy of which is filed herewith and made a part hereof and is marked for identification "Exhibit No. 1," which sale was confirmed by the City Council of the City of Louisa, and which franchise was subsequently sold by the Tripple State Gas & Oil Company to the United Fuel Gas Company, which latter named company owned and enjoyed the privileges of this franchise up to the date of its expiration, on or about the 2nd day of August, 1918, a period of twenty (20) years from and after its sale and confirmation. The Tripple State Gas & Oil Company and its successors operated the same, laid mains through the City of Louisa and domestic and industrial consumers made connection therewith and said Tripple State Gas & Oil Company and its successors continued to supply natural gas under its franchise for a period of twenty (20) years at a reasonable rate.

Plaintiff states that there is no other person or company selling or distributing natural gas or artificial gas in the City of Louisa, or in position to do so and the defendant, United Fuel Gas Company, has a monopoly of said business in said City.

Upon the expiration of said franchise in August, 1918, the defendant, United Fuel Gas Company, refused and still refuses to renew its franchise or accept another franchise and through its regularly constituted agent or agents, threatened to boycott the City of Louisa if molested in the absolute enjoyment and use of the streets and alleys of said City in its operation, and has thus continued to serve natural gas to the citizens of

Louisa since the expiration of its franchise in the same manner as it did under its franchise, except that it is constantly raising the rates to be charged and collected for the gas served, and is now using its mains and pipes in the City of Louisa for supplying natural gas just as it did under its franchise, without any right except that of suffrage, and is charging a greatly increased rate. The gas rate has been more than doubled since the expiration of said franchise and the said defendant is now exacting from consumers forty (40) cents per thousand cubic feet of gas consumed, with a discount of five (5) cents per thousand cubic feet if paid on or before the tenth of the month in which the bill is rendered. The City of Louisa and its inhabitants are dependent upon the defendant, United Fuel and Gas Company, for their natural gas for cooking and heating purposes and have no other means of supplying their needs, in this particular.

(4) Your petitioner is informed, believes and therefore avers that the rate of forty (40) cents per thousand feet of gas consumed, charged by the defendant in the City of Louisa, Kentucky, is unreasonable, exorbitant, unjust and extortionate and affords to said company more than an adequate return upon its capital invested and more than a reasonable compensation for the service rendered, and that said rate exceeds by more than sixty-five per cent. the rate charged by said company to the inhabitants of other cities in the same community and within a radius of less than one mile distant for the same gas and the same service, and the defendant is discriminating between citizens of Louisa, Kentucky, and citizens in Ft. Gay, West Virginia, which last named town is just across the Big Sandy River from Louisa, Kentucky, less than one mile away. The citizens of Ft. Gay, West Virginia, receive their gas from mains on the Kentucky side of the Big Sandy River—piped under the river at Louisa to Ft. Gay, both municipalities under the supervision and management of the same Agent of the defendant gas company, pay their gas bills at the same counter to the same company and to the same Agent of said company, often on the same day, citizens of Louisa at the rate of forty (40) cents per thousand cubic feet of gas consumed and citizens of Ft. Gay, West Virginia, at the

rate of twenty-five (25) cents per thousand feet of gas consumed, with a discount of five (5) cents to the former and a discount of three (3) cents to the latter, per thousand cubic feet, if paid on or before the tenth of the month in which rendered, which fact, in itself is prima facia evidence of what we have before stated, viz.: that the rate now being charged to citizens of Louisa by the defendant, United Fuel Gas Company, is unreasonable, exorbitant, unjust and extortionate, and is a discrimination between citizens of a neighboring town, less than a mile away, and citizens of Louisa.

(5) That your petitioner is informed and believes and therefore avers that a rate of twenty-two cents per thousand feet of gas consumed with a discount of two (2) cents per thousand cubic feet if paid on or before the tenth day of the month in which bill is rendered would be a just and reasonable charge for gas furnished and services rendered to the City of Louisa and its inhabitants, and that such rate would yield to said company a fair return for such service and a handsome dividend upon its capital invested, after making proper expenditures for the maintenance of the supply and the cost of distribution.

(6) Your petitioner further represents that the defendant, United Fuel Gas Company, has made and is making enormous profits, some of which have been recently distributed to its stockholders by a large stock dividend of more than one hundred per cent, representing recent earnings of said company. Therefore, your petitioner requests that it be made a party to this proceeding, and that it be permitted to assist the complainant, the City of Catlettsburg, and the Railroad Commission in the preparation of this case and in the investigation of the matters complained of, and that the defendant, United Fuel Gas Company, be required to render service and supply gas at a reasonable rate, both to the City of Catlettsburg and to the City of Louisa.

WHEREFORE, your petitioner prays that after due hearing and proper investigation and order be made requiring the defendant, United Fuel Gas Company, to establish and

maintain a reasonable rate for natural gas furnished to the City of Louisa, Kentucky, and its inhabitants and for such other relief as may be deemed proper.

Attorney for City of Louisa.

Augustus Snyder states that he is Mayor of the City of Louisa, and that the statements in the foregoing intervening petition are true as he verily believes.

Mayor of Louisa.

Subscribed and sworn to before me by Augustus Snyder this 18th day of May, 1920.

Notary Public for Lawrence Co.,
Kentucky.

Exhibit B—6.

BEFORE THE KENTUCKY RAILROAD COMMISSION

CITY OF CATLETTSBURG, A MUNICIPAL CORPORATION,
Plaintiff,
vs.
UNITED FUEL GAS COMPANY,
Defendant.

Intervening Petition of the City of Ashland, Ky., to be made a Party

To the Honorable Railroad Commission,
of the Commonwealth of Kentucky.

Your petitioner, the City of Ashland, a municipal Corporation of the Third class, respectfully represents:

(1) That the City of Ashland is a municipal corporation of the third class, as cities are classified under the laws of the State of Kentucky, and is located in Boyd County, Kentucky, adjoining the City of Catlettsburg, Kentucky, the complainant herein, and is interested in and affected by this litigation.

(2) That the United Fuel Gas Company is a corporation, duly created, organized and existing under and by virtue of the laws of the State of West Virginia with its principal office and place of business at Charleston, West Virginia, and is the owner of property used for the production, transportation, distribution and sale of natural gas as a fuel for domestic and industrial purposes to domestic consumers in the City of Ashland, Boyd County, Kentucky.

(3) That on or about the 7th day of December, 1897, at which time the City of Ashland was a city of the fourth class

an ordinance was duly adopted and published, providing for the sale of a right to use the public streets, avenues, lanes and alleys within the limits of the City of Ashland for the purpose of laying mains and pipes, through which to conduct natural or artificial gas for a period of twenty (20) years; and after due advertisement the said right was sold on the 20th of December, 1897, to Otto Germer, Jr., which sale was duly reported to the Council of the City and confirmed. Thereupon, said Otto Germer, Jr., was granted a franchise for a period of twenty (20) years from December 7, 1897. The said Otto Germer and assigns accepted said Franchise and began operations under the same and laid mains through the City of Ashland and piped factories, dwelling houses and business houses for the sale of natural gas and continued to supply natural gas during said period of twenty (20) years, which ended in December, 1917. During all of said years the gas rate was very low. A copy of said franchise is attached to this petition as part hereof. During the life of said franchise the defendant, United Fuel Gas Company, by regular conveyances and assignment became the owner thereof and carried out said franchise until its expiration. There is no other person or company selling or distributing gas in the City of Ashland, Kentucky, or in position to do so, the defendant, United Fuel Gas Company, having a monopoly of said business in said City. Upon the expiration of said franchise in December, 1917, the defendant, United Fuel Gas Company, refused to renew the same or accept another franchise but has continued to serve natural gas in the same manner as it did under the franchise, except that it is constantly raising the rates to be charged and collected for the gas service; and it is now using its mains and pipes and service lines in the City of Ashland for the supply of natural gas just the same as it did under the franchise but without any right except suffrage to do so and is charging a greatly increased rate. The gas rate has been more than doubled since the expiration of said franchise, and they are now exacting from the consumers forty (40) cents per thousand cubic feet of gas consumed with a discount of five (5) cents per thousand cubic feet if paid on or before the tenth of the month in which the bill is rendered. The City of Ashland and its inhabitants are dependent upon the defendant, United Fuel Gas Company, for their natural gas

for cooking and heating purposes and have no other means of supplying their needs.

(4) Your petitioner is informed, believes and avers that the rate of forty (40) cents per thousand feet of gas consumed charged by the defendant in the City of Ashland, Kentucky, is unreasonable, exorbitant, unjust and extortionate, and affords to said company more than an adequate return upon its capital invested and more than a reasonable compensation for the service rendered, and that said rate exceeds by more than eighty (80) per cent the rate charged by said company to the inhabitants of other cities in the same community and within a radius of ten (10) miles for the same gas and the same service; and that the defendants is discriminating between the citizens of Ashland and adjoining cities in West Virginia and Ohio.

(5) That your petitioner is informed and believes and so avers that a rate of twenty-two (22) cents per thousand feet of gas consumed with a discount of two (2) cents per thousand cubic feet if paid on or before the tenth day of the month in which the bill is rendered would be a just and reasonable charge for the gas furnished and service rendered to the City of Ashland and its inhabitants, and that such rate would yield to said company a fair return for such service and a handsome dividend upon its capital invested after making proper expenditure for the maintenance of the supply and distribution.

(6) Your petitioner further represents that the defendant, United Fuel Gas Company, has made and is making enormous profits, some of which have been recently distributed to its stockholders by a large stock dividend of more than one hundred per cent. (100%) representing recent earnings of said company. Therefore, your petitioner requests that it be made a party to this proceeding; and that it be permitted to assist the Commission and the complainant in the preparation of this case and in the investigation of the matters complained of; and that the defendant, United Fuel Gas Company, be required to render service and supply gas at a reasonable rate.

WHEREFORE, your petitioner prays that after due hearing and investigation an order be made requiring the

defendant, United Fuel Gas Company, to establish and maintain a reasonable rate for natural gas furnished to the City of Ashland and its inhabitants and for such other and further relief as may be deemed proper and expedient.

S. S. WILLIS,
Attorney for City of Ashland.

H. R. Dysard states that he is Mayor of the City of Ashland, and that the statements in the foregoing intervening petition are true as he verily believes.

H. R. DYSARD

Subscribed and sworn to before me by H. R. Dysard on this 17th day of May, 1920

S. S. WILLIS
Notary Public, Boyd Co., Ky.

AUTHORIZING SALE OF GAS FRANCHISE

That the right to use the public streets, lanes, avenues and alleys within the city limits of the City of Ashland, Kentucky, for the purpose of laying mains and pipes through which to conduct natural or artificial gas for the period of twenty (20) years be duly advertised for sale to the highest *bona fide* bidder, the City hereby reserving the right to reject any and all bids.

If any bid be accepted, the term of such right shall be for a period of twenty (20) years, but the privilege so granted shall not be exclusive for the whole or any part of said period of time.

The sale shall be made for cash in hand at date of sale, but the amount so paid shall be returned to the successful bidder in case said sale shall not be confirmed by the Board of Council, said sale shall be subject to rejection or ratification by the Board of Council, and on the following additional conditions:

The sale of the franchise herein contemplated shall be made by R. C. Richardson who is hereby appointed and commissioned to make same. He shall first duly advertise said right and privilege for sale in the Daily News, the only paper now published in the City, for a period of ten (10) days, next before 20th of December 1897, on which day, between the hours of 12 o'clock noon, and 2 o'clock p. m., he shall at the front door of the city building, in the city, offer at public outcry to highest bona fide bidder for cash in hand the right and privilege of using the streets, avenues, alleys and lanes of the said City of Ashland for the purpose of conducting, conveying and distributing natural or artificial gas, or both, in mains and pipes for public and private use in said City of Ashland from the date of said sale for and during the term of twenty (20) years.

The purchaser of said franchise, and associates, successors and assigns shall have power under it to open said streets, avenues, alleys and lanes for the introduction of pipes and mains for the purpose of conveying and distributing said natural or artificial gas under all the restrictions and provisions hereinafter contained.

All excavations made by the purchaser of said franchise, his associates, successors, or assigns for the introduction of such mains and pipes for the purpose aforesaid shall be made with the least practical delay and inconvenience to the public or individual.

All damage to streets, alleys, sidewalks and other public places where excavations are made or material of any kind is placed shall be repaired by the owners of or operators under this grant at their own proper cost and that without unnecessary delay. If said parties shall fail, refuse or neglect to make the necessary repairs within a reasonable time from the date of making such excavations, then the City may remove and repair the same at the cost of said parties, and said parties shall be responsible for all the expense thereby incurred by the City and liable for all injuries and damages to persons or property occasioned by any want of care in opening or keeping open, closing or repairing, or in any other manner unnecessarily or carelessly obstructing said streets, avenues, alleys, lanes or public places for the aforesaid purposes.

All pipes and mains shall be so laid as not to interfere with the drainage of the City or with the underground fixtures used for the conveyance of water.

As a condition of the exercise of the privileges and grants herein contained, or any of them, the parties owning and operating hereunder shall furnish for public and private use to the City and its inhabitants such natural or artificial gas at a price not in excess of fifty cents per thousand cubic feet.

Should the purchaser, his associates or assigns fail, refuse or neglect to exercise the right and privileges granted by the sale of this franchise for a period of eighteen (18) months the next after the date of sale thereof, or fail in supplying said City and its inhabitants with natural or artificial gas for all the purposes aforesaid on or before July 1, 1899, or fail to refuse or neglect to comply with all the provisions herein contained, then and in that event this grant, privilege and franchise and all rights, benefits and privileges that have or may inure to said parties hereunder shall, at the option of the City of Ashland, be and become void.

The owners or operators under this franchise shall at no time so obstruct any street, alley or public passway so as to prevent ordinary travel over same.

All excavations shall be well protected by guard rails, and in addition thereto at night by sufficient lights to warn the public of any danger.

It is a condition of this grant and a part of the consideration therefor that the purchaser, his associates, successors or assigns shall covenant to and with the City of Ashland by good and sufficient bond with approved surety in the sum of ten thousand dollars, before work under this franchise shall be commenced within the limits of the City of Ashland conditioned to hold the City of Ashland harmless by reason of any damage, injury, accident or litigation growing out of any acts, negligence or want of proper care, in placing material, excavating, operating, obstructing, opening or keeping open, repairing or maintaining all and any of the streets, alleys, avenues or public places within the limits of the said City of Ashland wherever operated over or upon by excavation or otherwise, and that the same shall be restored as soon as the mains and pipe lines are laid to as good condition as they in every respect were prior to the making of such excavation.

The owners of the mains and pipe lines laid within the limits of the City of Asland, by and under the authority of this grant and privilege, may remove the same at the expiration of twenty years, or sooner, or when they may cease to operate or supply gas by reason of its exhaustion, or diminution, but before they shall make any excavation in any of the streets, alleys or other public places for that purpose they shall first indemnify the city against loss or damage by reason thereof in such manner as may then be determined by the Board of Council or legislative body of the City.

Sale of Gas Franchise to Otto Germer, Jr.

WHEREAS, an ordinance was duly adopted December 7th, 1897, providing for the sale of the right to use the public streets, avenues, lanes and alleys within the limits of Ashland,

Ky., for the purpose of laying mains and pipes through which to conduct natural or artficial gas for a period of twenty years and the same having been duly advertised as provided by said ordinance, and R. C. Richardson who was appointed commissioner to make said sale on the 20th of December, 1897, having made his report herein which is now approved and confirmed, and Otto Germer, Jr., having become the purchaser thereof at said sale, he being the highest bidder, at the sum of sixteen (16) dollars, therefor.

BE IT ORDAINED BY THE BOARD OF COUNCIL OF THE CITY OF ASHLAND, KENTUCKY:

That said bid of Otto Germer, Jr., as aforesaid, be and the same is hereby accepted and confirmed, subject, however, to all the provisions of said ordinance adopted December 7, 1897, relative thereto.

This ordinance shall be in full force and effect from and after its passage and publication.

A Copy: Attest,

RICHARD TOBIN,
Secretary.

May 19, 1920.

THE RAILROAD COMMISSION,
Frankfort, Ky.

Exhibit B—7.

COMMONWEALTH OF KENTUCKY

BEFORE THE RAILROAD COMMISSION

CITY OF CATLETTSBURG, et al.,
Plaintiffs,

vs.

UNITED FUEL GAS COMPANY,
Defendant.

Motion

Come the plaintiffs, City of Catlettsburg, City of Ashland and City of Louisa, and move the Commission that the defendant, United Fuel Gas Company, be required to file a written statement showing the following facts, to-wit:

1. The amount of the capital stock of the defendant, United Fuel Gas Company, on January 1st, 1910, and showing any increase in said capital stock since said date and the amount of such increase, if any, and the dates when same was made.

2. The yearly earnings of the defendant, United Fuel Gas Company, from January 1st, 1910, to the present time.

3. The yearly expenditures of the defendant, United Fuel Gas Company, from January 1st, 1910, to the present time.

4. All dividends declared by the defendant, United Fuel Gas Company, including both stock and cash dividends, since January 1st, 1910.

R. C. PRESTON,
For the City of Catlettsburg.

S. S. WILLIS,
For the City of Ashland.

R. C. McCLURE,
For the City of Louisa.

Copies to:

R. G. ALTIZER, Gen Counsel,
Charleston, W. Va.

HON. MAURICE L. GALVIN, Atty.,
Covington, Ky.

HON. J. S. COOPER, Somerset, Ky.

HON. F. N. BURNS, Paducah, Ky.

HON. E. C. KASH, Jackson, Ky.

Original Filed June 18, 1910.

COMMONWEALTH OF KENTUCKY

BEFORE THE RAILROAD COMMISSION

CITY OF CATLETTSBURG, et al.,
Plaintiffs,
vs.
UNITED FUEL GAS COMPANY,
Defendant.

Answer to Motion Filed June 18, 1920.

In response to the motion filed by the plaintiff, the City of Catlettsburg, and the intervening petitioners, the City of Ashland and the City of Louisa, in the above styled proceeding, requiring the defendant to file a written statement showing certain facts, the defendant now says:

FIRST: In answer to the first interrogatory contained in said motion, the defendant says that the par value of its capital stock on the 1st day of January, 1910, was $1,000,000.00, and that since said date there have been the following increases in said capital stock, viz.:

On July 1, 1910, an increase of	. . .	$	5,000,000.00
" June 29, 1915 " " "	. . . . .		3,000,000.00
" April 19, 1917, " " "	. . . . .		1,000,000.00
" April 8, 1920, " " "	. . . . .		20,000,000.00

making the total of its capital stock at this time $30,000,000.00.

SECOND: In answer to the second interrogatory, the defendant says that its yearly earnings from January 1, 1910, to January 1, 1920, were as follows:

Calendar Year	Gross Receipts	Operating Expenses, Depreciation, and Taxes	Net Earnings
1910	$ 1,758,265 42	$1,927,923 25	$ 169,657 83*
1911	2,305,314 20	2,389,250 11	83,935 91*
1912	3,328,678 51	1,865,204 47	1,463,474 04
1913	3,215,340 74	2,186,783 33	1,028,557 41
1914	3,000,451 17	2,454,274 11	546,177 06
1915	3,110,967 25	2,193,980 64	916,986 61
1916	4,752,588 78	2,103,644 19	2,648,944 59
1917	9,390,175 58	6,204,345 87	3,185,829 71
1918	10,246,538 85	8,488,314 83	1,758,224 02
1919	10,484,459 82	8,447,892 13	2,036,567 69

(*) Deficit.

The figures shown in the foregoing statement are the combined receipts, expenses, etc., of the defendant, during each of said years, in connection with the several kinds of business in which it was engaged, viz.: the business of producing and selling natural gas, the business of producing and marketing crude oil, and the business of manufacturing and selling gasoline. Said receipts, expenses, etc., embrace the business of the defendant in connection with its entire plant located in various parts of the States of West Virginia, Ohio and Kentucky, including the receipts from the sale and distribution of natural gas in various municipalities in each of said three States.

THIRD: In response to the third interrogatory, which defendant understands to mean capital expenditures, the defendant says that the amounts invested by it during each year from January 1, 1910, to January 1, 1920, in extensions and improvements of its several plants, were the following:

Year	Amount
1910	$1,259,607 52
1911	1,429,056 58
1912	1,913,241 37
1913	1,560,043 77
1914	1,199,418 50
1915	714,680 97
1916	2,322,219 86
1917	2,591,939 90
1918	1,485,017 18
1919	1,406,515 62

FOURTH: In response to the fourth interrogatory, the defendant says that all dividends from earnings declared by it, both stock and cash, since January 1, 1910, were the following:

	Dividend:	
Date	Stock	Cash
June 29, 1915,	$3,000,000 00	
1916,		$2,070,000 00
April 19, 1917,	1,000,000 00	3,600,000 00
1918,		3,600,000 00
1919,		3,850,000 00
1920,		2,400,000 00

NOTE:—In this connection, respondent makes the further statement that it was incorporated and commenced business in the year 1903, and paid no dividends, either cash or stock, previous to those above mentioned. Respondent also shows that the increase in capital stock of $20,000,000.00 in the year 1920, shown in answer to the first interrogatory, was not a dividend from earnings, but was merely an increase of capital stock, based upon an appraisal of its physical property.

The increase in capital stock of $5,000,000.00 in the year 1910 was not a dividend from earnings, but was based upon money and property paid into the Company for such stock.

UNITED FUEL GAS COMPANY.

By .

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Attorneys.

Exhibit B—8.

COMMONWEALTH OF KENTUCKY

RAILROAD COMMISSION

CITY OF CATLETTSBURG, KENTUCKY, A MUNICIPAL CORPORATION,
Plaintiff,
vs.
UNITED FUEL GAS COMPANY,
Defendant.

Complaint that Rate Charged for Natural Gas by United Fuel Gas Company to City of Catlettsburg and its inhabitants is unreasonable, etc.

Motion to Dismiss and Answer

The defendant, United Fuel Gas Company, moves to dismiss the complaint filed herein by the City of Catlettsburg, for the reason that this Honorable Commission is without jurisdiction to hear and determine the matters arising upon said complaint, and is without jurisdiction to grant the relief prayed in said complaint, or any part thereof.

Without waiving its said motion, but relying and insisting upon the same, this respondent, for answer thereto, says:

FIRST: It is true that the City of Catlettsburg is a municipal corporation of the fourth class under the laws of the Commonwealth of Kentucky, and that it is located in Boyd County of said State.

SECOND: It is true that this respondent is a corporation created, organized and existing under and by virtue of the laws of the State of West Virginia, with its principal office at Charles-

ton, West Virginia, and is the owner of property used for the production, transportation, distribution and sale of natural gas as a fuel for domestic purposes, and, to a more limited extent, for industrial purposes, and that it is engaged in the sale of natural gas to domestic consumers thereof in the City of Catlettsburg and in certain other cities of the Commonwealth of Kentucky.

THIRD: It is also true that on the 28th day of July, 1898, the said City of Catlettsburg made a franchise contract with Otto Germer, Jr., which contract authorized said Germer to furnished natural gas to the inhabitants of said city for a period of twenty years following the date of said franchise, at a reasonable rate, and that by virtue of sundry mesure assignments the interest of said Germer in said franchise contract came to be owned by this respondent in the month of September, 1909; and it is also true that this respondent, after its acquisition of said franchise in the month of September, 1909, and until after the expiration of the twenty years' period provided for in said contract, did furnish natural gas to said city and its inhabitants at a very low rate or charge therefor. Respondent does not admit, however, but denies the allegation in said complaint that at all times since the expiration of said franchise contract on the 28th day of July, 1918, respondent has refused to renew same or to enter into a new contract, although it admits that it has not been willing to enter into any new contract upon terms which the complainant city has at any time proposed. Respondent is now, and has at all times been, willing to enter into a reasonable contract for continuing, so long as it is able to do so, the supplying of natural gas to the inhabitants of said city for domestic use, upon terms which would afford it a reasonable revenue upon the value of its property devoted to said service, or reasonable compensation for the value of said service, and respondent avers that a reasonable price for such service is not less than forty (40) cents per thousand feet for the gas so furnished, with the discount now being allowed by respondent for prompt payment, and avers that, on account of the enormously increased cost of producing and furnishing natural gas and the rapid exhaustion of the known supply, the rate should actually

be higher than that now charged in said city, and that the same will, in the opinion of respondent, necessarily be higher in the not remote future. Respondent also avers that the intrinsic value of the service so furnished by it greatly exceeds the said rate now being charged by it to consumers in said City of Catlettsburg and elsewhere. It is true that respondent has continued to maintain its pipes and mains in the streets and alleys of said city since the expiration of said franchise contract on the 28th day of July, 1918, but respondent has been ready and willing at all times since said last mentioned date, and is now ready and willing, and hereby offers, to take up and remove all of its pipes, mains and appliances in any of said streets or alleys, upon the request of said city or the properly constituted authorities thereof.

FOURTH: Respondent expressly denies the allegations in the paragraph numbered 4 of said complaint to the effect that said rate of forty (40) cents per thousand cubic feet of gas consumed is unreasonable, unjust and extortionate, and denies that said rate affords to respondent more than an adequate return for the service rendered or upon its capital invested for the purpose of maintaining such service. Respondent admits that said rate exceeds somewhat the rate charged by it in the City of Huntington and the towns of Carodo and Kenova, in the State of West Virginia, but denies that the rate as charged in the City of Catlettsburg exceeds by more than eighty per cent. the rate charged by respondent in any one of said places in West Virginia, or any other place within a radius of ten miles of said City of Catlettsburg. In this connection, respondent avers that the rate charged by it in said City of Huntington and other named places in the State of West Virginia, is not now, and has not been for a number of years, voluntarily fixed by this respondent. Respondent avers that the rate now being charged by it in said named localities in the State of West Virginia is unfair and unjust to this respondent, and affords no proper criterion of the rate which should be charged by respondent in said City of Catlettsburg, or elsewhere.

FIFTH: Respondent likewise expressly denies the allegations in the paragraph numbered 5 of said complaint to the effect that a rate of twenty-two (22) cents per thousand cubic

feet for gas consumed, with a discount of two (2) cents per thousand cubic feet for prompt payment, would be a just or reasonable charge for gas furnished to the City of Catlettsburg or its inhabitants, and denies that such rate would yield to respondent a commensurate return for such service or upon its capital invested for the purpose of maintaining the same.

WHEREFORE, respondent prays that the complaint of said City of Catlettsburg be dismissed.

UNITED FUEL GAS COMPANY,

By _____

Vice-President.

_____

Counsel for Respondent.

STATE OF WEST VIRGINIA,
KANAWHA COUNTY, To-Wit:

H. A. Wallace, being first duly sworn, says that he is general Manager of United Fuel Gas Company, a corporation, the respondent named in the foregoing answer, and that the statements of fact contained in said answer are true, as he verily believes.

_____

General Manager.

Taken, sworn to and subscribed before the undersigned Notary Public in and for Kanawha County, West Virginia, this 15th day of June, 1920.

_____

Notary Public.

My commission expires:

_____, 19____

Exhibit B—9.

KENTUCKY RAILROAD COMMISSION

FRANKFORT, KENTUCKY

February 1st, 1922

CITY OF CATLETTSBURG, et al.,
Plaintiffs,

vs.

UNITED FUEL GAS COMPANY,
Defendant.

Order

This cause coming on for hearing on defendant's petition for rehearing and the Commission being sufficiently advised overrules and dismisses said petition, to which defendant objects and excepts.

COPY ATTEST:

Secretary.

Copies to:

City Attorney, Catlettsburg, Ky.

City Attorney, Ashland, Ky.

City Attorney, Louisa, Ky.

R. G. Altizer, Vice-President, United Fuel Gas Company, Charleston, W. Va.

KENTUCKY RAILROAD COMMISSION

FRANKFORT, KENTUCKY

January 18, 1922

CITY OF CATLETTSBURG, KENTUCKY,
CITY OF ASHLAND, KENTUCKY and
CITY OF LOUISA, KENTUCKY,
Plaintiffs,

vs.

UNITED FUEL GAS COMPANY,
Defendant.

Order

This cause involving the rates charged for natural gas in the cities or towns of Ashland, Catlettsburg and Louisa, Kentucky, coming on to be heard, and after the evidence, exhibits, briefs and arguments of counsel have been heard and considered, it is the opinion of the Commission, and it so adjudges and orders, that any rate or rates that may be charged after the effective date of this order in excess of Eighty Per Cent. (80%) of the present rates now being charged and collected in said cities or towns shall be, and the same is now adjudged to be extortionate and excessive, and the defendant, United Fuel Gas Company, is ordered and directed to charge, collect and receive such rates for natural gas in said cities or towns after February 11th, 1922, as shall not exceed Eighty Per Cent. (80%) of the rates now being charged for such gas service, and the defendant is ordered and directed to file its schedules and put into effect, rates not in excess of those provided herein, in conformity with this order, on or before February 11th, 1922.

It is further provided that this order shall not interfere with any discount arrangement now existing providing for prompt payment of bills by the patrons of said defendant company.

COPY ATTEST:

(Signed) W. W. JESSE,
Secretary Kentucky Railroad Commission.

Exhibit B—11.

RAILROAD COMMISSION OF KENTUCKY

CITY OF CATLETTSBURG,
Plaintiff,
vs.
UNITED FUEL GAS COMPANY,
Defendant.

Petition for Rehearing

The defendant, United Fuel Gas Company, respectfully prays that a rehearing of the issues arising upon the complaint of the City of Catlettsburg and the intervening complaints of the Cities of Ashland and Louisa herein, may be granted to it, and that the order entered herein on the 18th day of January, 1922, be revoked, set aside and held for naught.

Your petitioner assigns the following specific grounds for such rehearing and for the setting aside of said order of the 18th day of January, 1922:

FIRST: The said order of the Commission herein deprives this petitioner of its liberty and of its property without due process of law, and denies to this petitioner, a corporation authorized to do business in the State of Kentucky under the laws of said State, the equal protection of the laws, contrary to the Fourteenth Amendment to the Constitution of the United States, in that it prescribes a maximum rate which this petitioner may charge for natural gas in each of said three cities, which maximum rate will not afford a fair or adequate return upon the value of this petitioner's property used and useful in such service, and which maximum rate so prescribed is less than the reasonable value of the service so rendered.

SECOND: The said order is not based upon testimony introduced on behalf of any of the parties to said proceeding which justifies the same, and the findings of fact in said order are contrary to the law and to the evidence.

THIRD: The said order, in so far as it purports to fix a maximum rate which may be charged by this petitioner

after the 11th day of February, 1922, is indefinite and ambiguous upon its face in the following two particulars:

(a) The rate now being charged by petitioner in said three cities upon which said order is designed to operate, is as follows: For domestic service, 40 cents per 1,000 cubic feet, subject to a discount of 5 cents per 1,000 if the entire amount due is paid on or before the 10th day of the month for the gas consumed in the preceding month, with a minimum monthly charge of 50 cents; Commercial service, first 500,000 cubic feet consumed in each calendar month, 36 cents per 1,000 cubic feet; all over 500,000 cubic feet consumed in each calendar month, 31 cents per 1,000 cubic feet, all subject to a discount of 1 cent per 1,000 if payment is made on or before the 20th day of the month for gas consumed in the preceding month.

It will be assumed by petitioner, in the absence of any supplemental or explanatory order, that the intent of said order of the 18th day of January, 1922, was to prescribe a maximum rate for domestic service of 32 cents per thousand cubic feet, from which sum petitioner may deduct 2 cents or less per thousand feet in order to induce prompt payment of its bills.

(b) The said order does not show upon its face whether it purports to apply to natural gas sold by petitioner for industrial use, although it is clearly shown in the testimony that petitioner is not engaged in the public service for such purposes and the rates charged for such purposes were not the subject of complaint in this proceeding.

Petitioner will assume, in the absence of any supplemental or explanatory order, that said order of the 18th day of January, 1922, was not intended to operate upon the rates charged for industrial service.

Respectfully submitted,

UNITED FUEL GAS COMPANY,

By _____,

_____,

Its Attorneys.

Charleston, W. Va.,
January 24, 1922.

STATE OF WEST VIRGINIA,
COUNTY OF KANAWHA, To-Wit:

R. G. Altizer, being first duly sworn, deposes and says that he is Vice-President of the petitioner above named and one of the attorneys for said petitioner as defendant in this proceeding; that the statements of fact contained in the foregoing petition are true, to the best of his knowledge, information and belief, and that the statements which embody conclusions of law are statements, in good faith, of the opinion of this affiant.

Taken, sworn to and subscribed before the undersigned Notary Public, this 24th day of January, 1922.

My commission expires:

. 19

Notary Public.

Exhibit B—12.

BEFORE THE RAILROAD COMMISSION OF KENTUCKY.

October 7, 1921.

CITY OF CATLETTSBURG, ET AL.
Plaintiffs.
vs.
UNITED FUEL & GAS COMPANY.
Defendant.

Transcript of Evidence.

W. H. Weiss, introduced by the plaintiff, after being first duly sworn by Chairman Cooper, of the Commission, testified as follows:

Question 1.—Give the Commission your name and occupation, Mr. Weiss.

Answer—W. H. Weiss, occupation, Engineer, investigating public utilities.

Q. 2.—I wish you would give the Commission, briefly, your experience as investigator of public utilities.

A.—I began in the street railway, in 1888, in the construction of street railways, electric light plants and gas plants, as an owner and operator, and continued that until 1905. I owned and operated the San Antonio Street Railway Company, Mutual Electric Light Co., and in that connection, purchased and consolidated the San Antonio Gas and Electric Co. That was done in 1899. Thereafter I sold those properties to what is now known as the American Light & Traction Co. In 1901 I became interested in the Waco, Texas, Gas Company. Also in the Glaveston, Texas, Street Railway & Electric Light Company. In those properties I was not the

sole owner, as I was in the San Antonio, but in connection with others, rebuilt them and operated them until they were sold to syndicates. I then became more or less inactive in the business, except to buy properties and resell them throughout the country, until about 1913, for some bankers in New York, I rebuilt a lot of small property in Missouri, in which we used natural gas to a considerable extent. In 1915, I went to Waco and Dallas and Fort Worth, and the fields of the Lone Star Co. to make an investigation, independent of the owners, for some people who wanted to know something about it, with reference to advancing some money to develop distributing plants in some small cities in Texas, including Waco, and I think—Well, I can't remember. However, Waco was the chief town to which they wanted extended natural gas. Nothing came of that, except a report that I made. I believe the Lone Star Co. developed those towns as distributing centers for natural gas. In the Missouri towns the company that I represented owned and controlled the pipe line running from Iola to Fort Scott, Kansas, Marion, Kansas, and one or two smaller towns, I don't remember the names, and ended at Nevada, Mo. The gas for those cities was bought from the Kansas Natural Gas Co. In that connection we had considerable trouble with the service, and I made a number of investigations of the fields of Kansas and Oklahoma and there gained what experience I have had in natural gas, which is not—I don't pretend to say that I am an expert on that; I am an expert in arranging rates. In other utilities, such as water and electric light, I have made a number of investigations in Kentucky, one for the city of Hopkinsville, one for the city of Georgetown, which embraces artificial gas, electric light and water, in connection with its sale of a new franchise by the city to the company, which was consummated. In Paris, Ky., I represented the city in the adjustment of its electric railway and street light rates. The matter has never been finished, but the case is pending, I think, in a suit. The light company, however, is furnishing street lighting at prices I had recommended to the city as being a fair value for the service. I also represented the city of Knoxville, Tenn., in street railway adjustment rates last year and that case came before the Railroad Commissioners of Tennessee. And sub-

sequently, in the same year, I made an investigation for the city of Asheville, N. C., its street railway and lighting business in the matter of request made by the company for an increase of fares. The matter did not come to a trial, as the city and the company agreed upon rates after my report was filed. In other words, the company withdrew its application for increased rates. The company there then filed an application to increase its artificial gas rates, and the city submitted the matter to me for an opinion and I advised them to give the company an advance, because I believed they were entitled to it. I made a good many more investigations that I cannot recall now, on rate matters.

Q. 2.—Just in a matter of years, Mr. Weiss, how many years experience have you had?

A.—It began, say in 1888, to date.

Q. 3.—Where is your home?

A.—This was in building and operating these plants originally, chiefly on my own account, as owner. In fact, until recent years I was on the owner side of the proposition entirely.

Q. 4.—Where is your home office?

A.—Kansas City.

Q. 5.—You also have an office in Cincinnati?

A.—No, but I work out from there through this section.

Q. 6.—In representing the complaining cities in this case, did you make an investigation of the defendant, United Fuel Gas Company, for the purpose of forming and expressing judgment as to what would be a reasonable rate in those cities?

A.—Well, my first work for the cities of Ashland, Catlettsburg and Louisa was in pursuance to request by the cities to make a study of the situation and advise them as to whether their complaint could be sustained. Or, as it was said to me we have been informed by the Gas Company that if some one furnishes us information that we may be able to reach some adjustment with the company, and I said "why don't you get together and have a settlement of the matter? These things

are always long drawn out and disagreeable, and I always advise an amicable adjustment if possible." They said, "That is what we want. You study this matter and give us information, and if you reach any point where there is any doubt as to how you shall make your figures, give the company the benefit of it." In pursuance to that I compiled a report, I think it was July 12, 1921, which I sent to the cities and suggested that a copy of the report be sent to the company along the line that I believed that if the reports were perused by both sides they might be able to get together. And in that connection, I may say that the company pursued a very frank and open policy in the matter of investigation. There wasn't any information that I wanted or called for, or asked, that was not furnished me. Everything was thrown wide open and the greatest possible consideration and courtesy was shown me in the investigation, and I may say, in passing, that it is not usual. Companies usually are not as frank and open as the United Fuel & Gas Company was in this investigation. There following no results from the report I rendered to the cities, copy of which was sent to Mr. Altizer, I was asked into a conference with the attorneys for the three complaining cities, and requested to prepare a report as an exhibit for filing before this commission in the hearing of the case, and that is the report that is lying before me, and which I presume will be introduced on behalf of the plaintiffs.

Q. 7.—Where did you get the figures on which you based your report, Mr. Weiss?

A.—From the company. I made sufficient investigation of the manner in which the company carries its accounts, that with my general knowledge of what would be about the figures, I was willing to accept their statement of investment and of operating expenses and other pertinent matters, with very little exception without change, or only such changes or adjustments as will appear in the report and will be explained.

Q. 8.—Just briefly, before introducing the report, I would like you to explain to the commission what it contains.

A.—The report starts "Report of Investigation made in behalf of the plaintiffs, of the investment, revenue and operating expenses of the United Fuel Gas Company, and other matters pertinent to the issue, to be introduced and filed as

an exhibit by the plaintiffs upon the hearing hereof." Then there is a heading "Historical."

Q. 9.—Is that a history of the company? The chapter you refer to as "Historical."

A.—A brief history of the business the company is engaged in. On Page 2 is stated the annual sales of gas from the year 1910: 1910, 17,177,211 M. Cubic Feet; 1911, 23,725,188; 1912, 28,620,950; 1913, 28,151,600; 1914, 29,283,145; 1915, 29,594,673; 1916, 39,290,446; 1917, 60,160,866; 1918, 57,035,146; 1919, 51,650,275; 1920, 51,795,457. Seven months ended July 31st, 1921, 23,763,470. The greatly increased sales in 1917 and 1918 were due, undoubtedly to abnormal manufacturing demands caused by the war. Then we set forth on page 2, Apportionment of Investment and Expense. As stated there, it divides its retail business into five geographical divisions; namely, Ashland, Kentucky Division, comprising Ashland, Catlettsburg, Russell, Pollard, Louisa, Inez, Warfield, Buchanan, Burraugh, Wolf Creek, and rural districts along the pipe lines to Boyd, Lawrence and Martin counties, Greenup, Chinnville, Worthington and rural districts along the pipe lines in Greenup County, Ky., Kermit and Port Gay, West Virginia; Ironton (the typist left off the "ton" in Ironton), Ohio Division, comprises Ironton, Coal Grove, Hanging Rock, New Boston, Sciotoville and Wheelersburg. The purpose of setting forth, your Honors, the earnings and expenses in these various divisions, is to show the earnings by the company at the rates prevalent in West Virginia at the times of these reports, as contrasted with others in the Kentucky cities under review. Then we show how the investment is apportioned, or allocated to these various divisions. I will just briefly state the substance of the report, and then tell you the theory on which we proceeded. Then we set up the "Natural Gas Investment," as taken from the company's books. "Allowance for Going Value," "Allowance for Working Capital," "Allowance for Depreciation and Depletion." Then Tables, beginning with Table A, page 16, and running to Table 35, page 66, and page 67 is a reproduction of a map that sets forth the gas property of the company. This map I reproduced from a map that was contained in a printed report that the company used in a case in West Virginia.

Q. 10.—I ask you if the report that you have there is true and correct, to the best of your knowledge and belief, and does it correctly express your opinion on the facts.

A.—I do not give any opinion. That, I think, is for the commission to determine. I merely set forth the facts as abstracted from the books of the company, and I do set forth the basis upon which the proportions of property were made, and cite the authorities in support. If Mr. Willis will permit me, I perhaps ought to enlarge on that some by taking up each page and each heading, and explaining to the commission, although it may be said that the report speaks very clearly for itself. If that is the desire of the commission I shall be very glad to do so.

ATTORNEY WILLIS.—We offer, at this point, to file the report, and ask the witness to make that explanation and express an opinion.

The Commission directs that the report be filed, which is done, marked "Exhibit No. 1." The defendant enters formal objection to the filing of the report, at the time.

Witness continues his evidence, referring to the report which has just been filed as Exhibit "No. 1."

At page 2 of the report, just filed, you will find the heading "Apportionment of Investment and Expenses." That purports to set forth the geographical divisions of the company's business and the towns embraced in it, and on page 3 it is stated that the apportionment of that part of the property that serves all the towns—(You gentlemen perhaps understand that this company produces gas and transports gas to a great many cities, towns and communities in West Virginia Kentucky and Ohio). The production of the gas and the transportation of the gas is done by property that serves all the cities. It, therefore, becomes necessary to determine what part of that joint property or property commonly used, shall be allocated to the various cities and towns; in this particular case to Ashland, Catlettsburg and Louisa. We have apportioned this joint investment on the basis of the volume of the gas that goes through the pipe lines and is purchased, commonly denoted the sales basis. For the information of the commission and not with the idea of instructing the commission, but

realizing that this, perhaps, is a case of first impression before this commission, in respect to municipal public utility rates, and that they have, perhaps, not been called upon to make a serious study up to this time, and for its convenience, we have set forth citation of authorities where this same method has been used in this same class, and we cite here Landon V. Lawrence, P. U. R., 1916, B. 331, and quote briefly therefrom for your Honors' information. Also in Oklahoma, the Pawhuska Oil & Gas Co., P. U. R., 1917, D. 947, Ashtabula case and a case in Pennsylvania recently decided. Decided May 26, 1921. That case has not yet been reported. In that case it was said:

> "The respondent supplied gas to consumers in Jamestown and suburbs, in the State of New York, as well as to the cities of Erie and Corry and the Borough of Warren and some minor places, in the State of Pennsylvania. In the values agreed upon in the engineering conference, as well as the computation of final values submitted in evidence by the engineers of the respective parties, only the properties used in the Pennsylvania business are included. As to such properties as are used in the supply of gas to consumers in both states, the proportion apportionable to the State of Pennsylvania is based upon the amount of gas supplied by respondent to consumers in Pennsylvania, in proportion to the total amount which it supplies in both states, which is 73 per cent of total."

We also make reference to the companion case of this case, which is entitled Davis v. Pennsylvania Gas Co., wherein the Commission of New York spoke, and there they use the remainder, I think 26.8% of the total gas, to apportion its property to Jamestown. In Davis v. Pa. Gas Co., 2nd District, decided December 23, 1920, and on rehearing decided June 15, 1921. The latter is unreported. You gentlemen are probably aware there has been a complete change in the Commission of New York. They formerly had two, and now they have only one, with jurisdiction everywhere except in New York City. And there was an idea the new commission would do things somewhat differently from the former commission.

The rehearing, of which I have a typewritten copy, addresses itself to the proposition on complaint of the company that this decision had not given consideration to the value of the acreage that the company devoted to the production of gas in Pennsylvania, and on that basis the new commission gave them 26.8%, and devoted, I think, a million and a half dollars to the valuation that had been fixed prior thereto by the preceding commission, because of the oversight of the former commission in adding that property to the value.

COM. BURNS—But didn't change the sales basis, really.

A.—No sir. On page 5 we also quote from a decision by the West Virginia Public Service Commission, in the case of United Fuel Gas Co. No. 845, decided Dec. 19, 1919. It is not necessary to quote all that, because it speaks for itself. In a preceding case, No. 585 or 535—585. That was a very closely and very well tried case. The cities and the companies were at issue as to how to allocate the investment, and the commission—no one could tell exactly how they did allocate it, but they used a mixed formula of demand and distance and sales basis. In a subsequent decision of the same case, that is, the companion case No. 845, they said this:

> • • • 'in apportioning the value of applicants property and its earnings and expenses as between its wholesale and retail business, and as between localities and divisions, we have followed substantially the rules and principles laid down in Bulletin No. 43, Case 585 (Re United Fuel Gas Co., P. U. R. 1918, C 193), and will not repeat what we there said. However in making this assignment and apportionment, less weight has been given to the distance factor in allocating the transmission investment, for the reason that taking into consideration applicants whole system of connected mains and lines, its various compressor stations and the location of its sources of gas supply, aside from leakage and waste in transmission, the distance factor seems to have but little more than nominal effect upon the cost of transporting gas from applicant's gas fields to the several West Virginia divisions."

Showing that the trend of the commission was to lean toward the distribution of this property on the basis of its use. In other words, the volume of gas that goes through it. These matters, of course, are only determined upon a basis of what is reasonable and just, and following precedent. It is for that reason I adopted the sales basis, and I think the cities in their position in that respect are supported by these authorities who have threshed out these matters.

COM. BURNS—Does the distance factor enter into the instant case, considerably?

A.—Well, if we were to put it on a basis of distance from the center of the producing fields. The distance to Ashland would be possibly 75 miles, whereas to Charleston it would only be about 20. There would be some difference, of course.

COM. BURNS—What was the distance in that case you were quoting? The New York commission.

A.—I think it was all of that. I am not sure, but I think all of that distance. In Landon v. Lawrence, referred to on page 3 of this report, Landon was the receiver of the Natural Gas Co., and the city of Lawrence filed a complaint against the rates, and the commission was called upon to allocate the amount of property between two states, Kansas and Missouri, so the commission said this:

> • • • "the value of such portions (of property) as were used for the purpose of furnishing gas to the markets of both States was divided, in the case of each line, between the two States in the proportion that the volume of gas transported through such line and distributed in each State, respectively, bears to the entire volume passing through the line."

The insertion in parenthesis here is my own.

Distance was not regarded. You know that gas is sent to Kansas City, 165 miles from base. Now, in this case, apparently the production property was not considered because the company was not producing gas; was purchasing its gas chiefly, this Kansas Company. Now, in the Okla-

homa case, Pawhuskie Oil & Gas Co., the Oklahoma Commission said:

> "Value, revenue, and expenses of a natural gas producing system were apportioned between distributing systems on the basis of sales to each system."

In the Ashtabula Gas Co. reported here, the commission said:

> "It is customary for gas companies to charge the same rate for service in the various municipalities which are served from the same source of supply without taking into account the variance in distance from the point of origin or the difference in cost of distributing plants due to local conditions. • • • • As the chief benefit to be derived must depend upon the volume and pressure, it is to the advantage of each that the gas for all is transported through one main line and not through three, which gives added volume and pressure to each, and if each pays in proportion to the amount consumed, each bears its proper share of the whole transportation and distribution expense."

All those authorities seem to tend to ignore the distance factor.

COM. BURNS—Is there any divergence of opinion about that among engineers or commissions, to speak of?

A.—None, except the decision of the West Virginia Commission in case 585. Although case 845 seems to indicate that they are getting away from it. I don't think any one can tell from the decision in 845 just how they arrived at it, for the reason, the reading of the case made this impression upon me, that the Commission (meaning no disrespect in what I mean to say), the Commission allocated a great deal less property to the large West Virginia cities than properly should have been assigned to them, and allocated a great deal more property to the wholesale division that should properly have been assigned to them. And, similarly allocated a great deal more property to Ashland and Catlettsburg division than

should have been allocated to them, and for that reason I set forth what they say here. You gentlemen will ascertain from the report—I am unable to find how they arrived at their decision.

COM. BURNS—You mean by wholesale division, companies engaged in business?

A.—Yes sir. Now to determine the percentage or ratio of the sales to the whole, we have prepared Table 1, Appendix 1. This will show the gas sales for the year to wholesale and retail customers, and the percentage of sales to each customer of the total sales. This is to form the basis of the apportionment of jointly used properties and expense—properties used for all purposes. The reason we speak of jointly used property, it should be stated that expenses of local managers in the cities of Catlettsburg, Ashland and Louisa and all the divisions are kept separate and distinct on the company's books; likewise the amount of sales and the earnings, so that it is not necessary to apportion the expense in the management of the properties in those particular towns, except to determine what part of the whole property expense should be added to these various cities in order to determine what their real expenses are.

Q—Is that cost of distribution in these towns higher or less than other towns in the groups or divisions?

A—I don't think I have made an exact analysis of that, but it runs about the same. The company keeps a direct record of the matter, and I did not think it was proper for me to invade the company's own method of management of salaries and matters of that kind, and, therefore, I didn't address myself to that part of it. But there was not sufficient difference in the cost of distribution to attract my attention and justify my investigating it. I accepted the expenses as they were given. The company has furnished me with statements of their investment property as of December 31, 1920, and also as of July 31, 1921.

COM. BURNS—What rule was used in arriving at their invested capital?

A—The amount charged by the company upon its books. In other words, its book value.

COM. BURNS—Not reproduction or replacement?

A.—No sir. Contained in a statement for 1920, which is set forth in Table 1, page 20 of the report, is "Incomplete Construction," amounting to $511,080.96. Included in that sum just named is $58,507.62, which is properly chargeable to oil investment. Incomplete construction is construction which is not finished at the time of the investigation, and, therefore, is not used or useful and is not producing revenue. For that reason it is the universal practice for a great many authorities to exclude the same from the rate basis.

CHAIRMAN COOPER—Does that relate to the particular division?

A.—It relates to the entire property. However, in view of the fact that 1920 investigation is already passed, we are not much concerned in that. I have included it. It is frequently excluded by rate making authorities on the ground that it is not used or useful and the public should not pay a return on it. I have never exactly agreed with the authorities upon that point, because often much of the property has come into use, or will do so, within a very short period after the investigation, and certainly all of it will come into use during the pendency of the rates. For that reason I have not excluded it in the investigation for 1921. If your Honors should fix a rate in this case, you would fix it for the future, and the amount would undoubtedly come into service during the pendency of such rates. Therefore, I have not excluded it. There is an account, however, included in this investment of 1920, which is termed adjustment account. In response to a request for an explanation of the account, the company stated this covers dry holes, surrendered leases, abandoned wells, etc., which had accumulated from the beginning of the company to the time when we charged these items off during the year. It is a part of our actual investment, but we show it in a separate item so as not to have in our item of wells, acreage, etc., anything that has been surrendered or abandoned. The item is being amortized each year at the rate of five per cent. Strictly construed, that property, of course, should be excluded because it is superseded or abandoned, and the purpose of allowing a public utility a fund for depreciation o,

depletion—we don't ordinarily use that term in the ordinary utility, is that when the property is abandoned or the depreciation is serious, it should be charged to that fund and not to investment, and so we suggested, superseded and abandoned property is no longer used and useful, and, therefore, should not be included in the rate base. It should have been amortized from earnings at the time it was superseded or abandoned, and if the company failed to exact sufficient rates for its service to enable it do so, the fault was its own.

This company up to 1913 was a free agent in West Virginia and could charge any rates it pleased. In 1913 the Commission took charge, and, of course, it could have gone to them for relief, and if it did not, it was its own fault. In Kentucky it had rates fixed by franchise, of 25 cents, but even so, when those rates became unremunerative or non-compensatory, the company had the right to advance the rates. At least that has been held in different instances. However, we have included that in the investment and have added the 10% overhead and the 10% going value, which adds the value to the 1920 investment of approximately $915,000.00. We have excluded from the 1920 investigation $168,591.08 "discount on bonds" that the company carries as an investment, upon which it seems inclined to think it is entitled to return. That is, discount on bonds sold in order to build the property. The practice throughout the country adopted by regulating commissions, is to exclude that from the investment, but to give consideration to the amount in granting a rate, so it can be charged off every year a certain proportion, and the rules and regulations natural gas utilities adopted by West Virginia, Pennsylvania and Ohio provides that a certain sum shall be set aside each year to discount these bonds.

Q. These bonds were actually sold at discount?

A. Yes sir. The company sets them aside. I am going into details in the 1920, because the same basis is followed in 1921. We have added to the investment as given by the company, 10% for what is termed as overhead expenses. Those overhead expenses are supposed to embrace engineering, supervision, interest during construction, administrative expenses, general offices, counsel, etc., giving general attention to things. That is a less percentage than would ordinarily

be added if the property was to be valued, or an estimate of its value made upon the reproduction basis, but this property was built piecemeal, month by month and year by year, and undoubtedly a large part of the expense incurred in it were incurred by regular employes whose expenses were charged up to the operation of the business. That strictly considered in a reproduction estimate, would not count, but should be added anyhow, but in the case of 585 of the West Virginia Commission, that commission against the suggestion and report of the company's engineer, as well as the cities' engineer, both of whom recommended an allowance of 15%, the commission reduced it to 10%. In case 845, decided Dec. 19, 1919, by the West Virginia Commission, wherein the United Fuel Gas Co. was the applicant for increased rates, the cities prosecuted their cause on the theory there should be no addition for overhead to the investment. Just what view the commission took of that is unascertained, because they did not go into details in finding the total value. I felt that it would be fair, however, to the company to add at least ten per cent to the value of the physical property to get its investment. In view of the fact that, as I stated above, many of these expenses were incurred in the regular operation of the plant and only, perhaps, the salaries of general offices would be applicable thereto, I believe ten per cent would be ample. These expenses were not looked for in the company's books, and undoubtedly would not appear in the company's books as a whole. Many of those expenses, no doubt are charged, but those that have been charged appear in the investment, and on top of that we add ten per cent for good measure.

COM. BURNS—Any objection to the adoption of the book value by any of the cities?

A.—We were not questioning the books.

ATTY. FOR DEFENDANT—You understand we do question the book value as being the proper rule.

WITNESS—Divide the investment plus the 10%, we have added 10% for going value, or going concern value. Undoubtedly you gentlemen are familiar with what that covers.

I state here very briefly what it means: "Going Concern Value is recognized as a property which should be considered in arriving at the value of the property of the Utility, and upon which it has the right to earn a return. A going concern has value first, because it has earning power which a concern of like efficiency but without business, has not, and, second, because it has cost something to attach such business to the going concern. We have adopted 10 per cent of the physical investment cost as the fair amount inhering in the property as a going concern." Many of the commissions contest that, and say until the company shows that it has actually suffered a loss in building up its business, it should not be allowed, but that strictly construed is what is termed development cost. This 10% is added to compensate the company for any loss it might have sustained in building up its business. Included in the total investment, as of December 31, 1920, was 760,417.84 acres, called unoperated leaseholds or acreage, that was valued at $6.39 per acre, and aggregated an investment charge of $4,846,050.61, December 31, 1920. On July 31, 1921, the investment charge was $4,733,695.62. The rentals, taxes and other charges upon this acreage are carried as gas operating expenses and paid from gas earnings. That is acreage, gentlemen, that the company has in its management of the property, collected to be drawn upon when needed for a supply of gas. I merely set it up here and call the commission's attention to it with special reference to whether that is an abnormally large amount of unproducing gas acreage upon which the amount of returns could be computed, not being devoted to the service. The West Virginia Commission, in case 584 previously referred to, reduced that acreage to about one-half —50%— of it. In case 845, also previously referred to, upon a claim by the company that its acreage should be valued on the exchange basis, or what it could be sold for in the market, the commission receded from that view and allowed the entire acreage in the investment, and I have taken the same position in this matter. I have included it, subject to the ruling of the Commission. There are no decisions that I have been able to inform myself from on that phase, and I have been rather diligent in the matter, save that of the Pennsylvania Commission in the case of Erie v. Penna. Gas Co. There the

Commission allowed a larger amount on the gas acreage than was supposed to have been the actual investment cost. It agreed that there were no books to show exactly what they had paid for the acreage, and, furthermore, all the parties in interest, both complainants and defendants, had agreed that they would submit the question to a conference of engineers—three engineers, one representing the company, one the city, and the other representing the commission—the commission's engineer. They determined the value, which the commission did not in whole adopt, but did in part. If it is interesting to the Commission, I have mimeograph copies of the opinion of the Commission, as well as the dissenting opinion of Commissioner Willings. He held that was erroneous, claiming that you could not value gas acreage because of the uncertainty of its ability to produce. We have tentatively included this unoperated acreage in the total investment, pending a showing by the company of how much is probable gas territory and how much merely "wild-cat" territory. With the overhead charges and allowance for going concern value, this means the inclusion of $5,863,700 in the amount upon which the return is computed in 1920; or, allowing 8 per cent return and 5 per cent for depletion, aggregates an annual charge to the consumers of approximately $762,000.00, or about 1½ cents per thousand cubic feet of gas sold in 1920. The return and depletion allowance on the unoperated acreage included in the 1921 computations, amounts to almost 2 cents per thousand cubic feet for gas sold to July 31, 1921.

WORKING CAPITAL. It is customary for Commissions to take one month, or six weeks operating expenses of the Utility and allow that as a working capital. The Utilities are unquestionably entitled to working capital. The West Virginia Commission, in the Natural Gas case, took one-twelfth, or one month's gas sales, one month's revenue. I refer to that here. Our computations are based upon two month's operating expenses and a comparison of the results of those figures shows that it amounts to about one month's sales of gas. In other words, the company sells gas and collects for it and their collections would be in about 45 days from the time they sell, or 15 days from the time they bill it. So for

good measure I added an additional 15 days, believing that would be fair. I may say, in passing, I have endeavored to compile this report upon the same basis I used to want to have my rates adjusted when I dealt with the public as an owner and operator of Utilities. We now get down to the inclusion in the operating expenses of a fund sufficient to preserve and keep up the property, otherwise known as annual allowance for depreciation, and in case of a gas company, annual allowance for depreciation and depletion. Many of the Commissmissions have spoken so clearly upon these matters and have defined so clearly what that contemplates, that I took the liberty of quoting from the various recent expressions on the part of the West Virginia Commission in case 929, West Va. Gas Co., which is reported also in P. U. R. 1920, C 613.

(See quotation on page 10 of report.)

It is perhaps known to you gentlemen that the State capitol was destroyed by fire last January, and as a result of that fire the records of the Public Service Commission were destroyed. The Commission has sent to the publishers a copy of that report, and inasmuch as the Utilities reports had not published it in full, I asked them to send me their copy, and I have that copy. I refer to it here and that is also at your disposal. The Commission's opinion in that case will be found on page 10 of the report. That opinion seems to have followed rather closely a decision by the Supreme Court of West Virginia in the case of Clarksburg Light & Heat Co., which is reported in South Eastern, which I also refer to. In arriving at the amount to be added to the current expense of the company to ascertain the cost of doing its business, I thought the very best figures to use were those that the company itself used. The West Virginia Commission in case 535, and also in case 845, allowed certain percentages to be set aside annually in the rate, or an expense to form part of the rate, which the company itself did not apparently closely follow. In some cases it used a less percentage and in other cases a larger percentage, but the rate of average ran about the amount that the commission said they might have the right to set aside. On the books of the company they set aside a fund upon the investment value of all their property, including acreage, and then in addition thereto they set aside 5% as a

depreciation fund and which the West Virginia Commission ignored. That amount that they set aside on the appraised acreage they do not charge as an operating expense apparently, but seems to take it out of the surplus. The Company very kindly put on paper just how they handle this amount, and I quote from them. In computing this reserve for depreciation, the company gave no consideration to the possible salvage value of their property at the end of its life. In other words, it took the entire investment, without taking the value of that part that might be left—that might be saleable when the business went out of existence, and following that method, I ignored it. Of course, on a very strict calculation, we properly would deduct ten, fifteen or twenty per cent. I made no study of it because it was not necessary. I say, however, that the percentages are computed on total investment cost for the physical property, no allowance being made for prospective salvage value.

COM. BURNS—Which in your opinion would be about twenty per cent?

A—I wouldn't like to go down as expressing an opinion.

CHAIRMAN COOPER—It would be a hard matter to estimate the value, wouldn't it?

A—Yes it would be difficult.

Q—What was the case you were quoting?

A—That was an illustration. Assuming that, at page 11 we set up "the amount so set up annually for the Gas Investments were etc.", and in 1917, which was the first year the company apparently set up a reserve, it set up for depreciation, $943,858.33, and so on. We show what they set up each year, and the total for 1917 to 1920, inclusive, for depreciation and depletion of $5,545,076.08. Now, the expenditures. For the year 1917 to 1920, inclusive, the company expended from this account for the purpose thereof $83,211.40 for Depreciation and $15,278.52 for Depletion, a total of $98,489.92, leaving to the credit of said account $5,446,586.16 as of December 31, 1920. They spent that in one, two, three, four years. Out of $5,545,076 they only expended a total of $98,489.92, leaving to the credit of said account $5,446,586.18,

as of December 31, 1920. If we add thereto the amount computed to July 31, 1921, namely $921,539.65 (See Table B, Appendix 1), gives the sum of $6,368,125.81 to the credit of said account at July 31, 1921, less any expenditures made therefrom during 1921. I didn't get those.

COM. BURNS—Along that line, there, does it seem in your opinion too high percent is set aside for depletion and depreciation?

A.—No sir, I wouldn't say so, because depreciation in Gas Utility is quite different. You are addressing yourself and providing for the final death of the plant. When the time comes there is no more gas, that they will have enough money on hand to return to them the original investment.

CHAIRMAN COOPER—That cannot be done anything like accurately, can it?

A.—It is only an estimate. Of course as they take up pipe and throw out meters, and things of that sort, they charge those meters and this pipe to this account, and if they replace meters and pipe at a greater cost that the original cost, they charge the excess to capital. The purpose of the depreciation account is to have enough money to maintain the integrity of the property at its original cost, if that is obtainable.

The New York Public Service Commission have spoken very intelligently upon that subject, and I quote from them:

"The New York Public Service Commission in Breen v. Northern New York Utilities Inc., decided Oct. 28, 1920, P. U. R. 1921 A. 463, in response to the claim of the Utility that the amount of such a reserve should not be deducted from the fixed capital account in arriving at the investment of the Company in property devoted to the public service, (p. 469), said:

> "The fund so created is in the nature of a trust fund which is provided for renewals and replacements of fixed capital and drawn on for those purposes as the actual renewals and replacements become necessary. The accruals are made on the basis of the theoretical depreciation, while the disbursements are or should

be made to meet the actual replacement costs as and when the depreciation becomes realized. The fund is contributed by the public in the rates for that purpose. The theory is that eventually it will exactly equal the depreciation and obsolescence in the depreciable property. The accruals to the fund necessarily precede the actual replacements, however, and, as a result there is found to exist a running balance in this account representing money which has been contributed by the public in the way of rates. In practice, this balance is "borrowed" from the fund and devoted to immediate corporate purposes such as working capital and the acquisition of new property. The reserve account thus becomes a mere accounting figure. The fund itself is put to use and becomes for practical purposes the equivalent of active capital which otherwise must needs be raised by note or security issued and upon which a return is allowed. Sinking funds cannot properly be thus mingled with the general funds of the company, but the money itself must be set apart or invested and the accrued interest or earnings of the fund, being necessary to round out the amount required at the end of the period, cannot be charged against the corporation as a part of the corporate income. It is upon these considerations that the Commission has adopted the rule of deducting the amount of the balance in the amortization or depreciation account from the fixed capital in arriving at a basis for the fixing of rates, where the facts are as found in this case."

The New York Commission holds, and others that are cited here, that where a reserve for depreciation and depletion is set up on the straight loan basis, that is, say the estimated life of the property is 20 years, you set up 5% and don't set aside the money and invest the money and earn a return on the money by way of interest, and mingle it with your other funds and expend them in betterments and improvements, that when the time comes to adjust the rate which you must deduct from the fixed capital stock, its fixed capital stock should be reduced to that extent in arriving at the investment in property devoted to the public service. That is set forth in this report.

The company produces from natural gas, gasoline, and following the ruling of the West Virginia Commission in the

case of Natural Fuel Gas Co., and also in another case, The West Va. Central Gas Co., which I refer to, held that one half of the net profits of the gasoline sales that accrued to the company should be deducted from operating expense of the natural gas business; and following that ruling, the same plan has been adopted here. That is fully set forth in the report here. We also set forth in the report by Tables, what the investment allocated to the various divisions is, the earnings of them and percentage of the return on investment in each division. We felt that perhaps your Commission would be interested in ascertaining the difference in the earnings of the Company on the Kentucky business as contrasted with that of West Virginia. I am frank to say that when I was first employed in this matter, I didn't know it was going to involve this elaborate investigation, and I am also frank to say that without the assistance of the company in the matter, the case would probably have amounted to a sum largely in excess of what these three small cities would have been able to pay, or willing to pay. As it is, a reasonable charge is going to trouble them some to pay.

Q. Atty for Plffs.—What is the present earnings on the Kentucky business?

A. We will ignore 1920; that is ancient history, but on the basis on which we make up this report, Table B shows investment, revenue and expense, the percent earned in the city of Ashland. According to this report, and deducting the income tax, which is not generally allowed by Commissions, but we have included it here and leave the Commission to pass upon whether it should be included; the Company for the seven months ended July 31, 1921, earned, after allowing income tax on its investment as allocated by this report and allowing $5.66 for depreciation and depletion, 21½ per cent on the investment.

(See Table B, Page 17a).

City of Ashland, gross income after allowing for income tax, $21.50; City of Catlettsburg, $19.61; City of Louisa, $20.52. These percentages are within a few decimal points. We use a solid rule.

CHAIRMAN COOPER.—What is the rate the cities are paying?

A.—Thirty-five cents. 35 cents per thousand cubic feet 40 less 5. Forty is the rate, with a reduction of five cents if paid within ten days. But they all pay, and the figures furnished by the company show that there is very little penalty collected. The Charleston Division, which includes the City of Charleston and surrounding points, for the same period earned $7.34. The rate there is 22 cents, and a lower rate on industrial gas. The company now has an application for an increase of its rates. In the Ironton Division, Ironton, Ohio, the rate is 25 cents. There the company earned, after deducting the income tax, $17.59.

Now, we show here by Table C, page 18, the amount required for 8%, 9%, and 10% returns and the amount the company has collected in these three cities. For example, in Ashland: Amount required for return at rate of 8 per cent, $97,760.00; amount required for return at rate of 9 per cent, $109,980.00; amount required for return at rate of 10 per cent, $122,203.00. On page 19 is Table D, for 1921. We have also prepared a table, Table D (a), page 19a, which shows the return upon the investment in these various cities if the accrued reserve—unexpended reserve is deducted from the investment, as some authorities seem to hold should be done. We merely set forth before you the facts and you are the judges; that is a matter for the Commission to determine. It may be stated that this computation of gas sales covers January to July 31, 1921. The reason we adopted July 31st, 1921, is that these are the same exhibits that the company is using in its present application before the West Virginia Commission for an increase of rates, and these figures were all made up, and as you gentlemen didn't show the high consuming months, that is, May, June, July, the earnings probably would increase, although I don't suppose the returns will show very much difference. The sales of the Company have gone down very materially, as I figure it out because of the industrial depression. They do a very large business in industries, and the sales have gone down some. We set forth in this report various tables, balance sheets of the company, and at page 66 we set forth at Table 35, Cash and Stock Dividends declared to July 31, 1921, beginning with the year 1916 down to 1921, inclusive, the total cash dividends paid amounted to

$20,320,000.00. The only reason that I am calling attention to the dividends in this matter is that a reading of the Supreme Court decision of West Virginia, referred to, will show you gentlemen that the Commission holds where excessive dividends are paid it is tantamount to

COM. BURNS During what period does that dividend cover?

A. 1916 to 1921.

COM. BURNS Is the average shown there?

A. I didn't average it, Mr. Burns.

ATTY. FOR DEFENDANT We commenced business in 1903 and paid no dividends until 1916.

The company had an investment at the beginning of the war period of about one-half of its present investment, and it added to that investment during the war period of prices, some of which would probable be considerable less if valued by today's prices. Furthermore, you cannot reproduce acreage; the only thing to reproduce would be the pipe lines and the cost of the wells and casing and things of that sort. It is my judgment, and I may be wrong about it, I want to be fair about it, that if this property was reproduced, taking the trend of prices which have been upwards since 1896, by projecting into say 1922 or 23 and taking an average of the labor, material, at the prices, it is my judgment that by the addition of the overhead charges or the addition of the going value, that there would be very little, if any, difference. In other words, I believe that the book value would show a larger value than the reproduction value less depreciation.

COM. BURNS Now, is it true that the rules adopted by most of the Commissions is the rule of average over say ten years?

A. Well, Mr. Burns, you rarely find a Utility as large as this that has as complete a set of books and records as this Gas & Fuel Company. I haven't run across them if there are any. They kept their books in a thorough manner. Whenever they take out a piece of property they credit it,

and put a piece back, they charge it, and keep the books right up.

COM. BURNS—Now, following out your suggestion that half of the invested property has been invested during the war period, would it not follow that the company could not be prejudiced by adopting the book value?

A.—Well, in my opinion—that was my view of it. If I had felt otherwise I would have made a reproduction estimate. That is, provided the cities had been willing for the expense.

COM. BURNS—Should the cities object to the taking of the book value?

A.—No sir. My experience, Mr. Burns, is that where cities employ you they give you no orders particularly.

COM. BURNS—But I meant are they usually suspicious of book value?

A.—The reproduction theory arose in Nebraska when Bryan was the Attorney General for the state, and I indicated a two cent rate, and he knocked that out in order to determine the value he should take. Now, in my experience, when cities would jump on my properties, I did the same thing. We all proceeded on that theory until the world war began and the gradual trend of prices made the cost run higher, then we all said we want the present cost. These people put in property here of a very high cost, but you can compare and ascertain the correctness. I believe that where the books and records have been kept in the excellent and very commendable manner in which the company keeps its affairs, that if the company gets a reasonable return upon the amount of money it has actually sacrificed, and I have endeavored to give them a very liberal amount, I believe that the treatment of the company is at least fair.

COM. BURNS—Is there any charge, obsolescence account?

A.—No, they write that off, you see. That is the adjustment account. I have left all that in there.

CHAIRMAN COOPER—Do you undertake to say what a fair rate would be in these cities?

A.—No sir, I never like to do that.

CHAIRMAN COOPER—You have an opinion along that line, don't you, from your investigation?

A.—I am telling you that with ten per cent earned upon an investment, plus the reserve for depreciation, that according to our figures would be $15.66. Now the Commission of West Virginia endeavored to allow approximately 16⅔ per cent, but apparently they did not add the ten per cent overhead, and just exactly how they arrived at it I don't know.

CHAIRMAN COOPER—What rate would that produce?

A.—A 25 cent rate, in these three cities. But if you gentlemen in your wisdom after studying these matters, think that the investment should be reduced by the amount of reserve for depreciation and depletion which the company has on hand, which the company has *not* on hand. They may have paid it out, I don't know. We didn't go into the matter. I show you here by these tables, which are all self-explanatory, if you deduct the accrued amount of reserve for depreciation and depletion, the rate would be too high by nearly 14 cents—

CHAIRMAN COOPER—You mean the present rate?

A.—Yes sir, in Ashland and Louisa, and 14-⅘ cents in Catlettsburg per thousand cubic feet. Now, the company will undoubtedly take issue with this, on the method of allocating this property. I assume they will. That is the reason I have cited you the authorities. I believe that is the reasonable method of allocating the property. I have endeavored to make these reports as clear and non-technical as possible. I write a good many reports for cities.

Q.—(by Atty. for Plaintiff)—Mr. Weiss, are conditions substantially the same in Catlettsburg, Ashland and Louisa as to gas rates?

A.—Yes, the conditions are not but very little different.

Q.—There is not sufficient difference to make necessary the making of a different rate for the three cities?

A.—I wouldn't think so.

Q.—What, in your judgment, would be a fair rate for gas in Ashland, Catlettsburg and Louisa under present conditions?

A.—Of coure, that has some reference to the rate of return the Commission might want to allow. Aside from the West Virginia Commission, I know of no commission that has allowed ten percent return on the rate basis. It runs between eight and nine, 8½—some put it about nine. I would say, based upon the deduction of the reserve for depreciation which has accrued, that a rate of 25 cents in those cities, less five cents for cash, would give the company a reasonable return. That is merely an expression of my opinion, based upon those facts.

Cross Exqmination by Mr. Altizer for Defendant Company.

If the Commission please, when you asked us this morning if we were ready, I made a reservation in the event we were surprised. We can go on and cross examine Mr. Weiss to a certain extent, but we are not prepared to complete it at this time. The reason is that we were furnished with a copy of what we supposed was his report, some time ago. We have checked that and are prepared to answer it. We are confronted this morning with a new report, differing substantially in many respects from the report we were furnished. I never saw it until this morning. I know it is customary, I have had it done to me so often—it is customary in cases of this sort where the proceeding is instituted by the company and documentary evidence is filled which requires examination before anybody can digest it, that a postponement be allowed the opposition to read the record and then cross examine. I think Mr. Weiss will bear me out that that is customary and usual.

MR. WEISS—Yes, it is.

It is impossible for an attorney to take a report like this and within an hour prepare to cross examine it. Moreover we expect to have to offer a great deal of documentary proof ourselves, from books and records of the company. Counsel on the other side will want to cross examine our witnesses as to the contents of those books, no doubt. For that reason we have had a conference with the attorneys on the other side and suggest that we go as far as we can this afternoon and then ask the Commission to give us leave to finish the proof by depositions taken at Charleston, which will be returned and filed as record.

CHAIRMAN COOPER—If that is satisfactory all 'round.

(Mr. Altizer continues.)

I appreciate the fact that there will be some expense attached to asking Mr. Weiss to go there to be cross examined, and that will probably be our expense instead of theirs.

XQ—Mr. Weis, I believe you stated this morning that you do not claim to have had a great deal of experience with natural gas?

A—Yes sir.

XQ—But your experience in public utilities business has been largely electric and railroad business?

A—Yes sir, and artificial gas. Of course, the principles of adjusting rates are practically the same, with certain allowances which I think I have given consideration in my report.

XQ—Isn't it a fact that the only utility business of any character which is regulated by public service commissions, which operates a property that is exhausted in use is natural gas?

A—I know of no other. That is, if you exclude the coal business.

XQ—But that is not a public utility business?

A—No.

XQ—Wouldn't that one thing alone be the occasion for very different rules about many things?

A—I couldn't answer that generally, unless you would ask me specifically in what respect.

XQ.—Well, isn't it a fact that the capital investment has to be returned within the life of the producing property?

A.—Unquestionably.

XQ.—And your experience with the life of producing natural gas companies, or producing natural gas property is limited, is it not?

A.—To an extent, but I have studied those questions very thoroughly.

XQ.—Well, I would like for you to tell the Commission, if you know, what has been the average life of some of the principal natural gas fields in the United States?

WITNESS—You mean as far as acreage producing is concerned?

ATTORNEY—Either way you like; take the whole acreage of any company, or any particular field.

A.—In certain fields it exceeds others. Take Pennsylvania gas fields—they seem to have an almost inexhaustible life, whereas West Virginia, Kansas and Oklahoma have not. But I would say West Virginia, in the field you are operating in, the southern part of the state, the life runs along six or seven or eight years; probably producing eight years.

XQ.—Now, considering the rate of depletion to be charged against the producing property each year, if you assume the life of that property is to be seven or eight years, would you charge off one-seventh or one-eighth for each of those years?

A.—Not necessarily, because it is uncertain.

XQ.—What I meant to get at is this. Isn't this a fact that while the average life of a producing property in a large part of West Virginia covered by the operations of this company is some seven or eight years, or less, yet that in the first of the seven years, under average operations, you deplete the property a great deal more than one-seventh. In other words, if a property will last seven or eight years, is it exhausted uniformly each year?

A.—I would say no.

XQ.—Isn't it a fact that in many instances as much as one-half of the entire debit is produced in the first year?

A.—Depends on what drain you placed on the wells.

XQ.—What is the usual thing?

A.—That again is a matter of the section you are in.

XQ.—Well, take West Virginia?

A.—I am not familiar with that detail in West Virginia, but from studies I have made of the matter, I would say that you would probably draw a third off the first two or three years.

XQ.—And if that is true, when you came to charge off the depletion shouldn't you charge it in proportion to the debit each year? In other words, we will assume that a given tract of land will produce a billion feet of gas in eight years, and say for illustration one-third of it will be produced in the first year, and assume that it cost one hundred thousand dollars, would you charge off one-seventh the first year, or one-third?

A.—No, I would take the history of the field and pro rate—take the experience I have and try and arrive at a percentage that would cover the entire field for the expected life.

XQ.—I have asked you to assume a case in which the life would be seven years and one-third would be exhausted in the first year.

A.—If I knew definitely—knew what the life was and what would be exhausted I would have a basis for figuring up. I don't think anyone living can estimate what a gas field will do.

XQ.—What you have done in your report, however, is to assume that the exhaustion is uniform for each year.

A.—I have taken the same amount that you gentlemen set up as a reserve.

XQ.—And that is all you know about the depletion of our particular property, isn't it?

A.—I have assumed that you were familiar with your property and that you would take the best possible view for yourselves in making your rate.

XQ.—Did you examine our records as to the decline in rock pressure of our wells?

A.—Only so far as were made by Mr. Wyer and brought down to date by Mr. Seyffert.

XQ.—But you didn't use that, nor did you use the decline in quality which we get in new wells, as a basis for your depreciation and depletion figures, did you?

A.—No sir.

XQ.—You have stated that you took the percentage of depletion and depreciation from the figures used by us. Now, the fact about that is this, isn't it, that the company has set up upon its books, in addition to the money invested in its property a sum which they have added to the investment cost to represent the value of the property by an appraisal, is'nt that true?

X.—Yes, I think I made that clear this morning.

XQ.—And the company in charging off its depletion and depreciation uses the same percentage which you have used, but applies that to both the investment cost and the additional sum added by appraisal. Isn't that true?

A.—Yes, but upon the theory of depreciation and depletion you can't—

XQ.—You have done that?

A.—Yes sir.

XQ.—And the net result of that is that we charge out of our earnings into expenses as representing depreciation and depletion a sum very much larger than you have allowed?

A.—No, I don't think you consider that in your operations. You charge that to a surplus. The final depreciation on your appraised value you charge to surplus, as I understand.

XQ.—Well, we charge it out of earnings, do we not?

A.—You treated it different; one through profit and loss and the other—

XQ.—We kept the two items so it can always be shown, but they are all taken out of the earnings for the year, are they not? Isn't it a fact that the company in reporting its income to the Federal Government for taxation, deducts from the earnings for the year the depletion which it charges out of its earnings?

A.—Yes sir, and I apprehend the reason in doing that, so as to lessen your income taxes.

XQ.—Why do you apprehend that?

A.—Because it is commonly done in coal mines and other similar interests of that sort. You are not earning a return on it or claiming a return on it.

XQ.—Well, in the balance sheet which you make one of your exhibits, you show this appraised value added to the investment value, do you not?

A.—Just as carried on your books, yes sir.

XQ.—Now, did you ascertain in your investigation who made that appraisal?

A.—Yes sir.

XQ.—Do you know whether it was done by competent men?

A.—It was done by men that I believe understand the natural gas business. I read the testimony in the case.

XQ.—And you are not prepared to say that their estimate of the actual value of the property is less than that shown on the books of the company?

A.—Not for rate purposes I wouldn't agree with them—no. They are valuing it as a market value.

XQ.—I am speaking of actual value.

A.—It is bound to have its influence, because those experts based their value on what the gas was worth, and you certainly couldn't value the property on the basis of what you were going to earn.

XQ.—I am asking whether or not you can say that the value as ascertained by those experts is the true value or not.

A.—I would say that their basis is wrong, is erroneous, in a rate case.

XQ.—And that is because you don't think that the actual value of property used in the public service is of any consequence, but that the rate must be based upon the investment only?

A.—Not necessarily. It is a value for rate making, but that value may not be arrived at by ascertaining what you could earn with it. In other words, you could not capitalize your return in order to determine your value.

XQ.—We also had testimony showing that was the market value, did we not?

A.—You had some testimony in which an opinion was expressed that it might be sold for that if you had a right to sell it.

XQ.—Now, your theory is that the true basis for rate making for public utilities is the actual investment of the utility in property?

A.—In certain cases. Where the records are complete and where a lot of the property was constructed at high cost, some of which have since decreased, where the average unit costs are represented by the investment, yes.

XQ.—Now, for the sake of an illustration, let us suppose a case. Let us suppose that as claimed by this company that its producing property has a market value in bulk and could be sold to investors in its entirety for the sum represented on the books as the appraised value, and let's go further and suppose such a sale is made and that price is paid for it by the purchaser in good faith, without collusion, upon what capital sum would this purchaser be entitled to earn a return in the event that it used the property in public service?

A.—You are supposing a case in West Virginia?

ATTORNEY—Yes, or anywhere else.

A.—I doubt whether you could sell your property.

XQ.—That is a supposed case.

A.—I wouldn't undertake to answer it. I am not supposing something you could not do directly. You couldn't sell without permission of the Commission.

ATTORNEY—You are mistaken about that; the Commission of West Virginia has no power to prevent the sale of property.

A.—I would hesitate to answer a case of that sort, because that would tend to fix the exchange value as the rate basis upon which you expect to pay a return.

XQ.—But the investment value would be the price that this new company paid for it, would it not?

A.—The new company would buy the property with the same burden under which you labored. It wouldn't be any different, I wouldn't think. I don't think the commission would take the sale price as a basis.

XQ.—Then your theory is if we have a property worth twenty-five million dollars and somebody is willing to pay that for it and market the gas where it would be profitable at that price, that we are obliged to treat it as half that sum and serve

the public at a rate that would only be profitable on half that amount of investment.

A.—So long as you are not free agents. You have devoted the property to public use. You would have to take your investment some way, determine what you have paid for it. You couldn't say because you were going to get so much gas out of it—

XQ. The investment is the main feature in determining a rate basis, is that your idea?

A. Not necessarily. Wherever the property has no books, no records of its cost, it is proper to take an inventory and ascertain a reasonable unit cost of labor and material and determine your profit that way.

XQ. Then, do you mean to say this, Mr. Weiss, if a company such as ours had a property that cost a hundred thousand dollars that was actually worth two hundred thousand dollars, it could destroy its books so you couldn't ascertain the cost, and it would be entitled to earn upon twice what its books may have shown?

A. The company may say it is worth two hundred thousand dollars, and investigation and inventory and computation may not show it to be worth two hundred thousand dollars. What I mean to say is this: that the reproduction theory arises where you have no other reliable evidence upon which to determine what property is worth. Now, if you had gone along and had not spent any money for high prices as you did, but you bought quite a lot of your property at war prices, or during the war period I understand some of your investments were made at a favorable price, but it is my judgment that if the physical part of your property were reproduced on a production basis and the trend price taken that the result of the reproduction would vary little, if any, from the investment cost as shown by your books, with the overhead added. I made comparison with Mr. Wyer's records and it did not differ 8%. I understand exactly what the situation is and I am not contending that I wouldn't like, if I had a property of that kind, to get the market price as a rate basis, but based upon the rulings of the courts and commissions I doubt whether an exchange value will ever be given.

XQ.—You said that probably one-half of our investment was made during the war years, did you not?

A.—I should say

XQ.—Now, your theory about that would fail if it should develop, as I think it will, that the investment charge on our books as the cost of this property is less—for the minute I am excluding acreage—is less than the average prices of that class of property during the ten years preceding the war, would it not?

WITNESS—You mean any construction made during the war period was less?

ATTORNEY—I mean that the entire construction from 1902 to this time; that the pipe and other materials is charged on the book as costing less per unit than the prices of those same materials on the average for the ten years preceding the war period?

A.—As I understand your question, you have claimed to buy material at favorable prices?

XQ.—We claim to have used a good deal of economy in construction.

WITNESS—Wasn't that your duty?

ATTORNEY—Of course, but aren't we entitled to credit for that?

WITNESS—No, it is your duty.

XQ.—Do you know whether or not, as a matter of fact that the prices at which these materials enter into our investment as the book value of the property, are or not less than the average pre-war prices for a period of ten years, for such articles?

A.—I don't know whether that is true or not, but I doubt it. Only by taking Mr. Wyer's figures; they seem to me like they were almost war prices.

XQ.—Do you think you were justified this morning in saying that we had constructed so much of it at war prices that in your opinion the whole thing was on a high level?

A.—I don't think I said that.

XQ.—Well, something to that effect.

A.—I said I believed if consideration was given to construction made during the war period, at the prices paid, that taking the pre-war prices and taking the investment made during the war period that if you took an average of the prices of labor and material and computed your inventory from that basis the difference between the investment shown by the books and shown by that estimate would be very little.

XQ.—You were just surmising, weren't you?

A.—No, I made some little examination.

XQ.—You didn't ascertain in your examination that a very large part of the construction work done during the war period were acquired under contract before the war and under pre-war prices?

A.—Yes, I knew that. But you didn't contract for the labor at pre-war prices and that was a very large part of it.

XQ.—Do you know how much of the pipe line investment and wells is represented by labor and what by materials?

A.—I should say at least a third, if not more.

XQ.—You said this morning that the earnings for 1921 were running at a less rate than 1920, due to the falling off of industrial business. You expressed the opinion that it was due to that; that the domestic business perhaps remained somewhat constant.

A.—Yes, I said that.

XQ.—Did you examine into this property far enough to know whether in the future, if there is a demand for industrial gas, this company will be able to supply it, taking into consideration its obligations to its domestic consumers?

A.—I can only base my answer on your past performance. You were able to supply them in 1920, and had a large call in 1917 and 1918 and supplied them.

XQ.—Do you know whether we supplied the demand at that time?

A.—No, you shut off some very large industries.

XQ.—I mean do you know whether we could have sold more gas if we had the gas to sell?

A.—I presume you had the demand for it, because there was a demand for every kind of fuel at that time.

XQ—You don't know whether we will have the same quantity of gas to sell in the coming years as in the past, do you?

A.—No, and I don't think you would know; don't think anybody would know.

XQ. You didn't consider the decline in rock pressure and the decline of quantity of gas we get in new wells?

A.—I was addressing myself to investment and return upon it.

XQ.—Do you think it would be fair to base a rate upon business done during the past years in the event that the company then had a surplus supply of gas which it sold to industries and wouldn't have that in the future?

A.—We are not paying very much attention to 1920 business. We are basing ourselves on 1921 business and that is certainly not showing a brilliant picture, bound to go up during the cold weather and bound to go up during the recovery of industries and you have got the gas now. I don't mean to say that you might be able to supply fifty billion or sixty billion, but if the occasion arises where you cannot furnish the gas, the Commission sits here always and you can come and ask relief.

XQ.—Yes, I know, but the gas might be gone before we got the rate. You are not able to inform the Commission, then, whether the company will have gas to furnish industries should there be a demand from them in the future.

A.—I don't think that is within the province of any human being.

XQ.—And you don't think that is material?

A.—I don't think it is material, because the Commission doesn't fix rates for any period, but so long as they are reasonable. And I am certain that the Commission will do the right thing by you in case your gas is giving out and you cannot furnish it. What I am endeavoring to do is to show the facts as they are today.

XQ.—Mr. Weis, your report probably shows it, but can you tell the commission now what proportion of the gas sold in 1920 was sold to industries?

A.—No sir, I cannot.

XQ.—It is a very large proportion?

A.—O, yes, a good proportion. I think that was the largest business you had that year; that and your wholesale business.

XQ.—And the gasoline business?

A.—Yes sir.

XQ.—Mr. Weiss, you made a report on this matter previous to the one which you filed this morning, did you not?

A.—Yes sir.

XQ.—And sent me a copy?

A.—At the request of the cities, yes sir.

XQ.—I notice in that report that you treated the gasoline business as a private enterprise and that you made the statement, in substance, that in your opinion as an engineer it should be so treated for rate making.

A.—I don't know as I went that far.

XQ.—In the calculations made in that report you excluded the receipts from gasoline as a part of the earnings of the Utility, except to the extent that you charged the loss of gas.

A.—Yes sir.

XQ.—Which is negligible, or almost so.

A.—Not very much.

XQ.—In the report which you filed this morning, while you do not include as a part of the investment of the company any part of the sum which it has invested in gasoline plants, yet you take one-half of the earnings from the gasoline business and apply it as a credit upon the company's operating expenses as a utility, do you not?

A.—Yes sir.

XQ.—In your previous report you also used a larger percentage of combined depreciation and depletion than you did in your report filed this morning, did you not?

A.—Yes sir, and also a larger working capital.

XQ.—It is a fact, isn't it, that between the time that you made your first report and the time you made the report filed this morning, you had access to our 1921 statements up to the time they were completed?

A.—Yes sir.

XQ.—And that the statements of earnings and expenses for the years 1921 showed such a falling off in net earnings as

would not have made a report based upon the same theory as your first report show a large earning for the plants at Catlettsburg, Ashland and Louisa; isn't that correct?

A.—I can't answer that, because I made no calculation.

XQ.—Were you influenced in changing your report by the fact that when you found that the company's business was declining that the basis you then used would not make out a case for your clients?

A.—Not in the least. I explained that this morning.

XQ.—Do you mean to say that your explanation this morning gave any reason for changing your basis?

A.—I am saying that the West Virginia Commission has done so.

XQ.—And do you ask the Commission to believe that is a proper statement?

A.—Giving the Commission the facts, what has been done by commissions who have handled this sort of business.

XQ.—Did you use the gasoline earnings, or one-half of it, in answering the Commission as to what should be a reasonable rate in those cities?

A.—Yes sir.

XQ.—Can you tell the reason, or was there any reason for changing the rate of depreciation and depletion in your second report?

A.—Only the explanation I made this morning, that I wanted to make it as favorable as I could for the company, hoping they might reach some adjustment of the matter, and I found on studying the matter further that other commissions had not allowed as much as you had charged up in your books based upon your investments. I treated the working capital in the same way. I was ultra-liberal in regard to all the figures made in the investment. I would have revised my report in any case, if it had been for you or against you. My first report doesn't show anything in 1921 at all, because it was compiled in May, and that was hardly a fair estimate of what might happen. However, when you gentlemen introduced the figures of July 31, 1921, I thought it might be a good plan to have that before the Commission.

XQ.—Then why did you change the amount which you said should be allowed for working capital?

A.—Because I overestimated it before.

XQ.—In which of your two reports is the amount allowed as working capital more nearly what is generally allowed by commissions?

A.—In the last one.

XQ.—Are you sure of that?

A.—Quite sure. Yes sir.

XQ.—I will ask you, as you seem to be very familiar with the decisions, to furnish the Commission with some statements on cases as to the amount of working capital allowed at less than you have allowed in your first report, even.

A.—Yes sir. I will be glad to furnish the Commission. I have innumerable ones. I cite two or three right in the report.

XQ.—You don't know of any where they ever allowed more, do you?

A.—I don't know of any. I know they allowed 2% in the Pennsylvania case, in Erie against Pennsylvania—a property worth millions.

XQ.—Two per cent of what?

A.—Of the physical value.

XQ.—The working capital isn't dependent upon the investment, but upon the actual expenditures, isn't it?

A.—Yes, but we determine the working capital upon each different investment in each different town. We took two months and found that was equivalent to 2% on the total investment and allocated that to the different investments.

XQ.—When did you first see the statement of business being done in 1921?

A.—I had the figures up to May 31st when I compiled the first report.

XQ.—And when did you get the later figures?

A.—Since the 19th of September.

XQ.—The 19th of September was when the hearing was on in West Virginia?

A.—Yes sir.

XQ.—You went to the West Virginia hearing?

A.—Yes sir.

XQ.—And were you present at the hearing?

A.—Yes sir.

XQ.—Was it before or after that time that you decided to change your report as to the amount of working capital to be allowed, as to the rate of depreciation to be allowed and as to the way to treat the gasoline earnings?

A.—I had made up my mind if the case came to a hearing I would revise the report and show the business of 1921, estimated as nearly as possible for the balance of the year.

XQ.—At that time you intended to treat it the same way as the 1920 business?

A.—No sir.

XQ.—Did you then intend to revise your report and change your rate?

A.—I intended to make a trial report to be used by the Commission. The report that I made in July was purely for the benefit of the cities to see whether they had a case to prosecute, and I made it most liberal, and I believe you will be bound to admit that all the figures were estimated most liberally.

XQ.—I understood you to say in your testimony this morning that the present report was most liberal.

A.—Not the most liberal I don't think.

XQ.—I understood you this morning to criticise in a measure the retention in the capital assets as a rate basis of the sums charged off in the past for depreciation and now constituting the depreciation reserve. You did criticise that, didn't you?

A.—No, only so far as the adjustment account goes.

XQ.—The company uses what you engineers term the straight line method of depreciation.

A.—Yes sir.

XQ.—Is that an approved method, or not?

A.—It is the simplest method. It is the method the companies all want.

XQ.—It is generally allowed, isn't it?

A.—Not generally. The Wisconsin Commission don't; the Pennsylvania Commission uses a sinking fund basis.

XQ.—Do you know of any natural gas company, or of any Commission in deciding a gas case, that has said it was improper?

A.—Only by its own action. The Pennsylvania Commission, in May, 1921, allowed the Pennsylvania Gas Co. to put all the property save the gas acreage on a sinking fund basis and allowed them less than one per cent per annum. They did allow them 5% on the acreage on a sinking fund basis. You, of course, don't change your basis when a sinking fund basis is allowed. You are supposed to take the investment, the cost of the property, and apply a percentage that will take care of it during its expected life. In other words, if you have a plant that will last 20 years, you take 5% of its original cost each year. All that the depreciation reserve is for is to make the company whole on the amount of money expended in its property.

XQ.—They have not paid out their capital in the dividends, have they?

A.—I think to the extent they have paid out their depreciation fund.

XQ.—Do you mean to say they have paid that out?

A.—They haven't it on hand.

ATTORNEY—Isn't that accounted for—part of it is invested in additional property?

WITNESS—Aren't you selling two million dollars worth of bonds now to recoup that?

ATTORNEY—Yes.

WITNESS—You haven't the money on hand, have you?

ATTORNEY—No sir.

WITNESS—If you put it back into the property and make no charge to the investment, then of course you have a depreciation in the property, but as I understand your books, every investment you make you charge to your books as a depreciation investment. In that connection, Mr. Altimer, I assume that the company has used its investment in the betterment of the company.

XQ.—If that is correct, the criticism this morning was not justified, was it?

A.—I have nothing to take back, what I said this morning.

XQ.—Now, you have said that in your opinion, based upon your investigation, a reasonable rate for natural gas at Ashland, Catlettsburg and Louisa in the immediate future would be a net rate of 20 cents per thousand.

A.—Based upon the figures as set forth in that report, yes sir.

XQ.—Have you any familiarity with what rates are being charged for natural gas service in different parts of the United States today where it is being served?

A.—Yes sir.

XQ.—Would you mind giving the Commission the benefit of your knowledge on that subject as to how the rate compares with what we call customary rates?

A.—Well, rates that may obtain in one community have no bearing on the other.

XQ.—I would like to show the Commission what the customary natural gas rates are.

A.—They vary. Ironton pays 25 cents now—

ATTORNEY—Ironton is still paying 35. There has been a decision against us.

WITNESS—Cincinnati, I think, pays 35 by virtue of a contract made ten years ago. Many cities in Ohio pay 40, 50 and 55; some of them 70 and 80.

XQ.—Do you know what rate the Court of Appeals fixed in Cleveland, Ohio, a week ago?

A.—No sir, I do not.

XQ.—Are you familiar with, and if you are will you give the Commission the benefit of it, the sliding scale rate which is being adopted in most gas using communities at this time?

A.—Do you mean in Ohio chiefly?

ATTORNEY—I mean in Ohio, Indiana, some parts of Pennsylvania, Western New York and in fact most every place in the United States where gas is used, except in the State of West Virginia, and in one case in the State of West Virginia it has been allowed.

A.—That all depends, of course, upon the fields from which it is being extracted. I know in Ohio the Commission has

acted chiefly upon the depletion of gas in Ohio and has endeavored to conserve it, on the theory that gas is going out in Ohio.

XQ.—What is the theory?

A.—The theory is the more you use the more you pay, in order to decrease the waste of gas. That is, if a particular consumer uses more than a certain amount per month, he is charged a higher rate per thousand. So the rate is fixed at 50 cents for the first ten thousand, and the next ten thousand would be 55 or 60, or whatever it is. The Ohio Commission has been chiefly prominent in that, because the companies have been very active and have been able to get the Commission to believe that was necessary in Ohio. It was not done in the Pennsylvania Gas Co. case. In communities where the gas was actually going out, the public Service Commission said we would rather have no gas sold to industries and conserve the fuel for the domestic consumer, and we will make him pay more if he wastes it, and that is a very good idea, I think.

XQ.—Don't you know that the effect of that kind of rate is to drive off industries from the use of gas, necessarily does it?

A.—Well the industries cannot be considered.

XQ.—I just want to know if that is not a fact; if that sort of rate is adopted universally it means that the factories cannot use natural gas. This kind of rate will prohibit them, will it not?

A.—Yes.

XQ.—You said the action of the Ohio Commission was based on the fact that the supply in Ohio was being depleted.

A.—I think so.

XQ.—Don't you know that more than half of the gas consumed in that state comes from West Virginia and that there is more consumed in Ohio than is consumed in West Virginia?

A.—Certainly so.

XQ.—Wasn't the action based somewhat on the idea that gas might be going out in West Virginia?

A.—I couldn't say what moved the Commission to do it. I know the argument presented for such rates was that gas was giving out.

XQ.—Don't you know that it is thoroughly understood by commissions in states where a great deal of natural gas is used, that the time for using natural gas in industries has practically come to an end. Isn't that generally understood?

A.—That is the propaganda.

XQ.—Do you undertake to say whether that is false?

A.—I don't know whether it is or not.

XQ.—Would you undertake to say that it is true that in future this particular company will not be able to market a very considerable quantity of gas for industrial use, and that the rate which you mentioned as a proper rate at this time would be wholly insufficient?

A.—If the company does not sell the gas because the industries are shut down, or because it hasn't got the gas, it must necessarily have a larger rate, but then the question arises should they keep that same amount of investment upon which the public should pay the return. They would probably get rid of the acreage—we are giving you those millions of acres that you don't use at all. You will probably shut off some of your wholesale dealers; you are not compelled to furnish under contracts, or go to the Commission and ask them to cancel the contracts and reduce the investment, but if you kept the entire investment and then could only furnish a certain amount of gas, you would necessarily have to have a larger price for it.

XQ.—Isn't this a fact, that the receipts from the domestic business is mainly in the winter time, chiefly, and very small in the summer time?

A.—If you didn't have an industrial business you wouldn't be able very long to do business.

XQ.—I would like to ask you, in your opinion, if the industrial business is discontinued from this time on, whether it can afford to furnish gas at the present price of 35 cents and earn any interest on its investment?

A.—I wouldn't like to answer that off hand. I think not, but we are not dealing with that. From my standpoint I am only furnishing the Commission with what exists today.

XQ.—But you are undertaking to advise the Commission as to what is a proper rate for it to fix for the future, are you not?

A.—For the immediate future.

XQ.—It is very material to know, isn't it, in fixing that rate whether or not the company will be able to sell industrial gas.

A.—It depends on whether the company can show conclusively to this Commission that it will not have the gas. I would not undertake to speculate on what would happen should your gas give out.

XQ—You haven't considered that at all in arriving at your conclusions?

A.—My conclusions are based on the sales for this year, already, and the idea that you will be able to sell the balance of the year, and it is my judgment that you will do better.

XQ.—You never were down one of the wells?

A.—No sir.

XQ.—Never been in any part of the field?

A.—No sir.

XQ.—And have nothing to base your judgment on that in the future we will be able to furnish gas.

A.—I am going wholly on the records of the company. Each year during the war period you produced and sold more gas.

XQ.—Sold more in 1918 than we did in 1917, did we?

A.—I don't remember the figures, but I think so.

XQ.—Sold more in 1920 than in 1918, did we?

A.—Sold less, but you couldn't expect the war times to keep up.

XQ.—But you don't know whether the figures were measured by demand or supply?

A.—I presume they were measured by the demand.

XQ.—And for all you know we might have sold in 1920 every foot we had to sell?

A.—I do not know.

XQ.—You assume the amount of sales was regulated solely by the demand?

A.—I notice you sold to the industries about the same amount, and took up a contract with the Public Supply Company.

XQ.—You don't mean to tell the Commission we have taken on a new market in the last year or two?

A.—You still continue to supply them.

XQ.—You don't know what they demanded?

A.—No, only on a basis of sales.

XQ.—You don't happen to know, do you that in the last year and two years preceding, we delivered the Public Natural Gas Company and the Pittsburgh & West Virginia Gas Company very much less than they demanded?

A.—That is possible. It didn't pay you to sell at that price when you could sell to others for more money.

XQ.—You assume all that?

A.—I don't know what your contracts were, no sir.

XQ.—You don't know whether we had a supply in excess of the demand, do you?

A.—No, I don't.

XQ.—Do you think it is fair to base conclusions on the fact that we have an unsold supply when you don't know anything about it?

A.—I repeat that my figures are based on what you did the seven months of this year and what I believe you will be able to do the balance of the year in those cities.

XQ.—I don't know whether I understood you correctly this morning, or not, but I understood you to say that in allocating the investment to the various localities, in producing property, you gave no consideration to the distance which one municipality might be from the field as compared with another.

A.—In transmission, no sir. We gave no consideration to the distance.

XQ.—And you based your report upon the assumption that gas can be delivered and marketed in Ashland and Catlettsburg at the same rate as in Charleston?

A.—Based upon the volume of sales, yes sir. Naturally, Charleston using more gas would have a larger investment; Ashland using less would have a less investment.

XQ.—You don't take into consideration the compressing station?

A.—Yes, but they are also used for other purposes beside Ashland and those cities. They are used for transmission to Cincinnati, Louisville and Lexington.

XQ.—But they are not used at all for Charleston, are they?

A.—No, they are not included in Charleston.

XQ.—Then, if I understand you, it does not make any difference how far you transport it nor what equipment nor investment in equipment is necessary to transport it the greater distance, that does not figure in your conclusions at all?

A.—No sir, I don't believe it makes a great deal of difference if you spread the investment over the entire property. And in that case again I followed what other Commissions have done, in similar cases: Pennsylvania, Oklahoma, Kansas and New York used the same basis.

XQ.—Do you regard that as sound?

A.—Yes sir, I believe so. It makes very little difference in allocating the investment in a community of that sort.

XQ.—Do you know what amount this company has invested in compressing stations which are used purely for the communities you represent in Kentucky; that are not used for delivery of gas in West Virginia at all?

A.—No sir, I do not.

XQ.—You didn't think it was necessary to know about that?

A.—I don't think it would make any difference.

XQ.—Now, you said you thought that Louisa, Catlettsburg and Ashland were all in the same class; that is to say, there was no reason why any substantial difference in the rates should be made as between those cities. Do you know where the gas comes from that supplies those different places?

A.—It comes from Kentucky as well as West Virginia.

XQ.—Does it come from the same place to supply Louisa as it does to supply Ashland and Catlettsburg?

A.—Well, I suppose it would be difficult to distinguish; you mix it altogether through the pipe lines.

XQ.—You made no investigation as to where it came from?

A.—I didn't think it was essential in this case. It all mingled as one gas. I think that the gas that comes from what is called the Kermit field is mixed in the lines of this company with the gas from the Rowan County field. I don't know exactly how they are connected, but I think they mix and mingle.

XQ.—Mr. Weis, you told us this morning that your public utility experience commenced as an operator?

A.—Yes sir.

XQ.—You never were an operator of a natural gas property, were you?

A.—Yes, in 1913.

XQ.—Where was that?

A.—At Fort Scott and Nevada, Mo.

XQ.—All in Missouri?

A.—No, it went into Kansas.

XQ.—What was the name of the company?

A.—Ft. Scott & Nevada Oil & Gas Company.

XQ.—Do you say you were the owner of it?

A.—No, I rebuilt the properties and managed them for some one.

XQ.—Where was the gas produced, in what state, I mean?

A.—Chiefly in Kansas. We bought it from the Kansas Natural Gas Co.

XQ.—The Kansas Natural Gas Co. went into the hands of a receiver, didn't it?

A.—Yes sir, they were not as far sighted as you gentlemen, didn't furnish any acreage.

XQ.—They didn't get criticised by experts, then.

A.—I am not criticising you; I am complimenting you.

XQ—You referred to the Waco Gas Co. That was an artificial gas? And so was the San Antonio Company?

A.—Yes, all of them. That was before they had natural gas, in those days.

Further the Witnesseth testifyeth not.

COMMONWEALTH OF KENTUCKY,
RAILROAD COMMISSION.

I, Anne Evans Miller, Stenographer for the Railroad Commission of Kentucky, do certify that the foregoing is a true and correct transcript of the shorthand notes of evidence taken by me in the hearing of the above styled case before the Railroad Commission of Kentucky, at its regular meeting held at Frankfort, Kentucky, on the seventh day of October, 1921.

Witness my hand, this 25th day of November, 1921.

ANNE EVANS MILLER,
Stenographer to Commission.

Copy filed with Commission.

Copy to Attorney S. S. Willis, Ashland, Ky.,
for plaintiff cities;

Copy to Attorney R. G. Altizer, Charleston, W. Va.,
for defendant Company.

Exhibit B—13.

COMMONWEALTH OF KENTUCKY
RAILROAD COMMISSION

CITY OF CATLETTSBURG, KENTUCKY, A MUNICIPAL CORPORATION,
Plaintiff,
vs.
UNITED FUEL GAS COMPANY,
Defendant.

Complaint that Rate Charged for Natural Gas by United Fuel Gas Company to City of Catlettsburg and its inhabitants is unreasonable etc.

Motion to Dismiss and Answer

The defendant, United Fuel Gas Company, moves to dismiss the complaint filed herein by the City of Catlettsburg, for the reason that this Honorable Commission is without jurisdiction to hear and determine the matters arising upon said complaint, and is without jurisdiction to grant the relief prayed in said complaint, or any part thereof.

Without waiving its said motion, but relying and insisting upon the same, this respondent, for answer thereto, says:

FIRST: It is true that the City of Catlettsburg is a municipal corporation of the fourth class under the laws of the Commonwealth of Kentucky, and that it is located in Boyd County of said State.

SECOND: It is true that this respondent is a corporation created, organized and existing under and by virtue of the

laws of the State of West Virginia, with its principal office at Charleston, West Virginia, and is the owner of property used for the production, transportation, distribution and sale of natural gas as a fuel for domestic purposes, and, to a more limited extent, for industrial purposes, and that it is engaged in the sale of natural gas to domestic consumers thereof in the City of Catlettsburg and in certain other cities of the Commonwealth of Kentucky.

THIRD: It is also true that on the 28th day of July 1898, the said City of Catlettsburg made a franchise contract with Otto Germer, Jr., which contract authorized said Germer to furnished natural gas to the inhabitants of said city for a period of twenty years following the date of said franchise, at a reasonable rate, and that by virtue of sundry mesne assignments the interest of said Germer in said franchise contract came to be owned by this respondent in the month of September, 1909; and it is also true that this respondent, after its acquisition of said franchise in the month of September, 1909, and until after the expiration of the twenty years' period provided for in said contract, did furnish natural gas to said city and its inhabitants at a very low rate or charge therefor. Respondent does not admit, however, but denies the allegation in said complaint that at all times since the expiration of said franchise contract on the 28th day of July, 1918, respondent has refused to renew same or to enter into a new contract, although it admits that it has not been willing to enter into any new contract upon terms which the complainant city has at any time proposed. Respondent is now, and has at all times been, willing to enter into a reasonable contract for continuing, so long as it is able to do so, the supplying of natural gas to the inhabitants of said city for domestic use, upon terms which would afford it a reasonable revenue upon the value of its property devoted to said service, or reasonable compensation for the value of said service, and respondent avers that a reasonable price for such service is not less than forty (40) cents per thousand cubic feet for the gas so furnished, with the discount now being allowed by respondent for prompt payment, and avers that, on account of the enormously increased cost of producing and furnishing natural gas, and the rapid exhaustion

of the known supply, the rate should actually be higher than that now charged in said city, and that the same will, in the opinion of respondent, necessarily be higher in the not remote future.* It is true that respondent has continued to maintain its pipes and mains in the streets and alleys of said city since the expiration of said franchise contract on the 28th day of July, 1918, but respondent has been ready and willing at all times since said last mentioned date, and is now ready and willing and hereby offers, to take up and remove all of its pipes, mains and appliances in any of said streets or alleys, upon the request of said city or the properly constituted authorities thereof.

FOURTH: Respondent expressly denies the allegations in the paragraph numbered 4 of said complaint to the effect that said rate of forty (40) cents per thousand cubic feet of gas consumed is unreasonable, unjust or extortionate, and denies that said rate affords to respondent more than an adequate return for the service rendered or upon its capital invested for the purpose of maintaining such service. Respondent admits that said rate exceeds somewhat the rate charged by it in the City of Huntington and the towns of Ceredo and Kenova, in the State of West Virginia, but denies that the rate so charged in the City of Catlettsburg exceeds by more than eighty per cent. the rate charged by respondent in any one of said places in West Virginia, or any other place within a radius of ten miles of said City of Catlettsburg. In this connection, respondent avers that the rate charged by it in said City of Huntington and other named places in the State of West Virginia, is not now, and has not been for a number of years, voluntarily fixed by this respondent. Respondent avers that the rate now being charged by it in said named localities in the State of West Virginia is unfair and unjust to this respondent, and affords no proper criterion of the rate which should be charged by respondent in said City of Catlettsburg, or elsewhere.

FIFTH: Respondent likewise expressly denies the allegations in the paragraph numbered 5 of said complaint to the

*Respondent avers that the intrinsic value of the service so furnished by it greatly exceeds the said rate now being charged by it to consumers in said city of Catlettsburgh and elsewhere.

effect that a rate of twenty-two (22) cents per thousand cubic feet for gas consumed, with a discount of two (2) cents per thousand cubic feet for prompt payment, would be a just or reasonable charge for gas furnished to the City of Catlettsburg or its inhabitants, and denies that such rate would yield to respondent a commensurate return for such service or upon its capital invested for the purpose of maintaining the same.

WHEREFORE, respondent prays that the complaint of said City of Catlettsburg be dismissed.

UNITED FUEL GAS COMPANY,

By _____

Vice-President.

Counsel for Respondent.

Exhibit B—14.

COMMONWEALTH OF KENTUCKY
RAILROAD COMMISSION

CITY OF CATLETTSBURG, KENTUCKY, A MUNICIPAL CORPORATION,
Plaintiff,
vs.
UNITED FUEL GAS COMPANY,
Defendant.

In re: Complaint that Rate Charged for Natural Gas by the United Fuel Gas Company to the City of Catlettsburg and its inhabitants is unreasonable, unjust and extortionate

For petition, the City of Catlettsburg, a municipal corporation, respectfully represents to the Commission as follows:

1. That the City of Catlettsburg is a municipal corporation of the Fourth Class, as cities are incorporated under the laws of the Commonwealth of Kentucky, and is located in Boyd County, Kentucky.

2. That the United Fuel Gas Company is a corporation created, organized and existing under and by virtue of the laws of the State of West Virginia, with its principal office and place of business at Charleston, West Virginia, and is the owner of property used for the production, transportation, distribution and sale of natural gas as a fuel for domestic and industrial purposes, and is engaged in the sale of natural gas to domestic consumers thereof in the City of Catlettsburg, and in other cities of this Commonwealth.

3. That on the 28th day of July, 1898, the City of Catlettsburg made and entered into a contract with Otto Germer, Jr., whereby said Germer, his successors and assigns, agreed to furnish natural gas to said city and its inhabitants, for a period of twenty (20) years, at a reasonable rate; that in the regular course of business, and before the expiration of said twenty (20) years period, the defendant, United Fuel Gas Company, became the owner of said franchise contract and assumed all the obligations thereunder; that for many years, and until the expiration of said contract, said company did furnish natural gas to said city and its inhabitants at a rate which was reasonable, as compared to the rate paid for the same gas and the same service by the inhabitants of other cities in the same community; that said franchise contract expired on the 28th. day of July, 1918, and since said expiration the defendant company has at all times refused to renew same, or to enter into a new contract, although it has continued to use the streets and alleys of the City of Catlettsburg for its pipes and mains and has continued to furnish natural gas to said city and its inhabitants, but at the greatly increased rate of 40 cents per 1000 cubic feet of gas consumed, with a discount of 5 cents per 1000 cubic feet, if paid on or before the 10th day of the month in which the bill is rendered.

4. That this petitioner is informed, believes and so avers that said rate of 40 cents per 1000 cubic feet of gas consumed is unreasonable, unjust and extortionate, and affords to said company more than an adequate return for the service rendered upon its capital invested for the purpose of maintaining such service; and that said rate exceeds by more than eighty (80%) per cent. the rate charged by said company to the inhabitants of other cities in the same community, and within a radius of ten (10) miles, for same gas and the same service.

5. That the petitioner is informed, believes and so avers that a rate of 22 cents per 1000 cubic feet of gas consumed, with a discount of 2 cents per 1000 cubic feet, if paid on or before the 10th day of the month in which the bill is rendered, would be a just and reasonable charge for the gas furnished and the service rendered to the City of Catlettsburg and its inhabitants;

and that such rate would yield to said company a commensurate return for such service and upon its capital invested for the purpose of maintaining same.

THEREFORE, this petitioner requests the Commission to investigate the matters complained of in this petition, and if upon investigation it is found the City of Catlettsburg and its inhabitants are being charged a higher rate for natural gas than is charged and collected by the defendant from the inhabitants of other cities in the same community for the same gas and the same service, that the defendant, United Fuel Gas Company, be required to produce proof before the Commission; showing in detail all its investments made for the purpose of maintaining such service and the earnings and income derived from such investments.

WHEREFORE, the plaintiff, City of Catlettsburg, prays that after due hearing and investigation, an order be made requiring the defendant, United Fuel Gas Company, to establish a rate for natural gas furnished to the City of Catlettsburg and its inhabitants that is just and reasonable, which rate shall not exceed the rate alleged in paragraph 5 to be just and reasonable and it prays for such other and further relief as by the Commission may be deemed proper.

IN WITNESS WHEREOF, the petitioner, City of Catlettsburg, a municipal corporation, has caused its corporate name to be hereunto subscribed and its corporate seal to be hereunto affixed by its Mayor, W. C. Harper, this 20th day of April, 1920.

(SEAL)

City of Catlettsburg, Kentucky,

By W. C. HARPER,
Mayor.

R. C. PRESTON,

E. POLK HARRIS,

Attorneys for plaintiff.

STATE OF KENTUCKY } SCT.
BOYD COUNTY. }

This day personally appeared before me W. C. Harper, who states that he is the Mayor and Chief Officer of the City of Catlettsburg, Kentucky, a municipal corporation; that he knows the contents of the foregoing petition, and that the facts and allegations therein contained are true to the best of his knowledge and belief.

W. C. HARPER.

(SEAL)

Subscribed and sworn to before me by W. C. Harper, this 20th day of April, 1920.

R. C. PRESTON,
Notary Public, Boyd County, Ky.

My commission expires:
January 18th, 1922.

THE RAILROAD COMMISSION
Frankfort, Ky.

A Copy
RICHARD TOBIN, Secy.

Exhibit B—15.

NATURAL GAS RATE SITUATION
OF
THE UNITED FUEL GAS COMPANY
IN
WEST VIRGINIA, KENTUCKY, AND OHIO

By
SAMUEL S. WYER
Consulting Engineer
Columbus, Ohio
April, 1919

April 30, 1919.

United Fuel Gas Company,
Charleston, W. Va.

Gentlemen:

I have just completed an extended examination of your natural gas operating conditions and find the following:

1. Your domestic consumers utilize only about 17% of the gas they receive. That is, they waste about 83% of the gas as now used.

2. The efficiency of the domestic consumers' appliances could easily be trebled so as to make 1 ft. of gas do the work for which 3 ft. are now required. 90c gas with efficient utilization would cost the con-

sumer no more than 30c gas under the present conditions, and would treble the time that natural gas will be available.

3. Demand for natural gas is now greater than the available supply, during the peak load period.

4. Number of acres natural gas land available per well now only one-fourth what it was in 1910.

5. Rock pressure decline has been general and very marked.

6. It has been necessary to greatly increase your compressing station capacity, to meet the rapid decline in rock pressure.

7. Average volume of new wells now drilled is much lower than that of earlier wells.

8. There has been a marked decline in average production of existing wells.

9. Length of haul is now greater than it was several years ago, because of the necessity of going farther away to supplement the rapidly decreasing supply in the old fields.

10. Operating costs and costs of material and labor have increased very rapidly.

11. Taxes have been greatly increased.

12. The total amount of gas available is declining rapidly, simultaneously with marked increased costs in production, the two having the immediate effect of greatly increasing the cost per "M" cu. ft. of gas that can be delivered to consumers.

13. During the past several years, you have doubtless reached your maximum output of gas, and you should bear in mind that the reserve for depreciation and depletion during the future should be greatly increased over the past. Moreover, you should adopt every reasonable method tending to conservation.

The preceding operating conditions make it imperative for you to obtain a higher price for your natural gas service, and for the consumers to give more attention to efficient utilization.

My reasons for arriving at these conclusions are given in detail in the following:

Respectfully submitted,

SAMUEL S. WYER.

LIST OF PLATES

Plate

1. Home wastes of natural gas.
2. Analysis of home wastes of natural gas.
3. Monthly natural gas sold and gas purchased.
4. Monthly domestic and industrial natural gas sold.
5. "M" cu. ft. natural gas used per domestic consumer per annum.
6. Domestic natural gas rates and domestic natural gas consumption at Ashland, Ky.
7. Domestic natural gas rates and domestic natural gas consumption at Ironton, Ohio.
8. Domestic natural gas rates and domestic natural gas consumption at Huntington, W. Va.
9. Domestic natural gas rates and domestic natural gas consumption at Charleston, W. Va.
10. Domestic natural gas rates and domestic natural gas consumption at Spencer, W. Va.
11. Decline in number acres natural gas land reserved for each producing natural gas well.
12. General decline West Virginia natural gas resources.
13. Operated, reserve and total natural gas acreage.
14. Rock pressure decline of typical natural gas wells in Weir sand, Big Sandy Dist., Kanawha Co., W. Va.
15. Rock pressure decline of typical natural gas wells in Big Injun sand, Big Sandy Dist., Kanawha Co., W. Va.

16. Rock pressure decline of typical natural gas wells in Squaw sand, Kanawha Co., W. Va.

17. Rock pressure decline of typical natural gas wells in Big Injun sand, Big Sandy Dist., Kanawha Co., W. Va.

18. Rock pressure decline of typical natural gas wells in Big Injun sand, Union Dist., Clay Co., W. Va.

19. Rock pressure decline of typical natural gas wells in Berea sand, Jackson and Roane Counties, W. Va.

20. Rock pressure decline of typical natural gas wells in Salt sand, Roane Co., W. Va.

21. Rock pressure decline of typical natural gas wells in Big Injun sand, Roane Co., W. Va.

22. Rock pressure decline of typical natural gas wells in Big Injun sand, Geary Dist., Roane Co., W. Va.

23. Rock pressure decline of typical natural gas wells in Lime sand, Logan and Wayne Counties, W. Va.

24. Rock pressure decline of typical natural gas wells in Maxon sand, Martin Co., Ky.

25. Rock pressure decline of typical natural gas wells in Maxon and Lime sands, Mingo Co., W. Va., and Martin Co., Ky.

26. Increase in horse power capacity of compressors necessary for natural gas transmission.

27. Decline in average open flow capacity of new natural gas wells.

28. Decline in average annual production of natural gas wells and increase in number of natural gas wells.

29. Increasing cost of producing natural gas wells.

30. Total length of natural gas mains in use in million lineal feet as an index of increasing length of gas haul.

31. Relative prices wholesale metals and metal products in the United States and domestic natural gas rates at Charleston and Huntington, W. Va.

32. Relative prices wholesale farm products in the United States and domestic natural gas rates at Charleston and Huntington, W. Va.

33. Relative prices wholesale food products in the United States and domestic natural gas rates at Charleston and Huntington, W. Va.

34. Relative prices wholesale clothing in the United States and domestic natural gas rates at Charleston and Huntington, W. Va.

35. Increasing cost of taxes in cents per "M" cu. ft. of gas.

PART I

Fundamental Principles

Sec. 1—Natural Gas is a Crude Mineral

Natural gas, as it comes from the ground, is a crude mineral in the form of a mechanical mixture of permanent gases and condensible vapors. However, on account of its adventitious origin, migratory habits and fugitive tendencies, it is regarded as a mineral with special attributes. Only the permanent gases are of use to the ultimate consumer.

The service made necessary in prospecting for and finding natural gas, reserving acreage for future drilling operations, holding the gas for the consumer's future use, reducing the gas to possession, hauling or transmitting it to market, and converting it into a controlled and usable service, are the dominating features of natural gas costs.

Sec. 2—Wrong Impression of Word "Natural"

While natural gas is a natural product made by nature, it is no more natural than other minerals like coal, oil, etc. Merely being made by nature does not mean that a substance is cheap and of low value. The misconception regarding the position of natural gas has arisen from failing to appreciate that all commercial activities are carried forward upon the resources of nature, and that every product of industry owes its origin, originally, to some natural resource.

Sec. 3—Regeneration

Natural gas is an exhaustible resource that is becoming scarcer every year. There is no regeneration in the present fields that are now being depleted. Food and trees can be grown, water supplies are constantly replenished by nature, but when natural gas is once used it is gone forever. Every time a natural gas company sells 1,000 cu. ft. of gas it is selling a part of its property.

Sec. 4—Demand for Natural Gas

The demand for natural gas is now greater than the available supply. The number of domestic consumers is increasing faster than the number of producing wells. Furthermore, the producing wells that are coming in to replace those previously drilled are, on the average, of much smaller capacity than wells that were drilled 10 years ago.

Sec. 5—Waste

Natural gas has been considered so cheap in the past as not to be worth saving. It is a well recognized fact that there can be no effective conservation without adequate prices.* The amount of natural gas wasted, today, is greater than the amount actually used.

There are at least 4,400 free consumers** in West Virginia who are wasting at least 350 "M"

* Most of the natural gas service problems of today are the direct result of failure to appreciate the underlying engineering and economic principles controlling the natural gas industry. These are discussed in detail in the recent December, 1918, Bulletin 102, Part 7, of the Smithsonian Institution, Washington, D. C., on Natural Gas: its Production, Service and Conservation.

** The term "free consumer" means the land owner who either has a gas well on or a gas line crossing his farm and was given the right to use natural gas without compensation (and which he interprets as without limitation) when the gas well lease or right of way contracts were made. The average consumption for each West Virginia "free consumer" is at least equal to 480 "M" cu. ft. Allowing a reasonable use of 130 "M" cu. ft. accounts for the waste of 350 "M" cu. ft. for each consumer per annum.

cu. ft. for each free consumer per year. This free consumer waste item for West Virginia amounts, therefore, to at least 1,540,000 "M" cu. ft of natural gas per year. This, incidentally, is just about equal to one-fourth the total amount of domestic gas used in the year 1918 by all of the United Fuel Gas Co.'s own domestic consumers.

The carbon black industry in West Virginia wastes 50% more gas than is furnished to all of the domestic natural gas consumers in the state.

The inefficient use of the gas by the ultimate consumer, for the reasons given in the next section, has been nearly universal.

Sec. 6—Few Improvements in Art of Using Natural Gas

On account of the low prices that have prevailed, gas appliance manufacturers have not been stimulated to the development of efficient natural gas appliances. There have been few improvements resulting in increased efficiency in the last 15 years.

In using natural gas in the ordinary natural gas cook stove, 87% of the gas is wasted. In using natural gas in the fire pot of the ordinary coal furnace, 75% of the gas is wated, or, to state it in terms of money, for every dollar's worth of gas purchased, in using the gas in cooking operations, 87c worth is thrown away, and in using the gas for heating in the fire pot of a coal furnace, 75c worth is thrown away. This feature is shown in graphical form on Plate 1, and the average home wastes of natural gas are analyzed on Plate 2, which shows that of the total amount of gas received and paid for by the domestic consumer, only 17% is utilized, or, stated in terms of money, for every dollar's worth of gas received at the domestic consumer's meter, on an average of 83c worth is wasted.

Efficient gas using appliances are on the market, easily obtainable, and not expensive. The financial importance of this is obvious when we consider that 90c natural gas used with low pressures and properly directed short flames in cooking, and in correctly designed and built natural gas furnaces will cost the consumer no more than 30c gas as now almost universally used, and will make the gas supply last three times as long.

Sec. 7—Conservation Possible Only by Increased Prices

"The only wise way for cities to do is to allow gas companies sufficient price so that they can afford to prospect for, buy and hold gas territory for the present and future use. Show the profit and conservation will take care of itself."

—U. S. Bureau of Mines—Technical Paper No. 38, p. 28.

"As natural gas is the cleanest of fuels and is particularly adapted to household use, it does not seem unreasonable to consider it as strictly a domestic fuel and not a commercial one. It should be limited to the use where it will do the most good."

—U. S. Bureau of Mines—Technical Paper No. 45, p. 50

If the gas is made worth saving it will automatically result: First, in taking much more of the gas out of the ground; second, in transmitting the gas from the field to the consumer with a minimum of waste, and, third, in the consumer using the gas in an efficient manner.

Sec. 8—Competitive Condition in Field

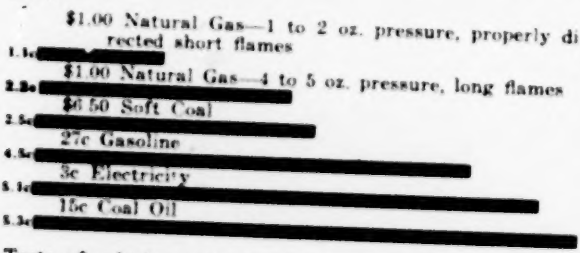
The extensive and intensive competitive production of gas, from many small acreage tracts, for industrial uses like steel making, glass making, and carbon black, has worked great injury to the field. This competitive condition in the field has been responsible for most of the waste. In fact, competition here is always an economic waste. One of the striking needs of the natural gas industry to-

day is to get the Government and the public to appreciate that "unity of action" should be applied to the many operations in the natural gas field, and that each field should be operated as a unit. If this were done it would very greatly reduce the waste and prolong the life of the field, and, therefore, the period of time when natural gas will be available for the public's use.

Sec. 9—Value of Natural Gas

West Virginia natural gas is purer and has about twice the heating value of any manufactured gas that can be commercially made. That is, this natural product is superior to any man made gas. The average price of manufactured gas is now about $1.25 per "M" cu. ft. On this basis natural gas is worth $2.50 per "M" cu. ft.

In tests* made by the Department of Home Economics, Ohio State University, Columbus, Ohio, on "relative cost of five different fuels," it was found that $1.00 natural gas, when properly used, was by far the cheapest fuel. This relationship is shown in the accompanying diagram, which represents the fuel cost of five different fuels, each used for cooking a dinner consisting of thick or Swiss steak, escalloped potatoes, spinach, bread, butter, rice pudding, coffee, cream, sugar, with portions for six people:



* Kitchen Tests of relative cost of natural gas, soft coal, coal oil, gasoline and electricity for cooking—Made by the Department of Home Economics, The Ohio State University, Columbus, Ohio. Reprinted, October, 1918.

Incidentally the above emphasizes the advantage to the consumer of using natural gas at low pressures with properly directed short flames as against higher pressures and long flames.

Sec. 10—What the Domestic Consumers Have Gained by Having Natural Gas

From 1910 to 1918 the United Fuel Gas Company's own domestic consumers received 45 billion cu. ft. of natural gas. To replace this with manufactured gas would require 90 billion cu. ft.

The cost to the consumers of the 90 billion cu. ft. @ $1.25 per "M" would be	$112,500,000
The cost to the domestic consumers of the 45 billion cu. ft. at average rate of 22c was	9,900,000
The United Fuel Gas Company's saving to its own domestic consumers was therefore	$102,600,000

Sec. 11—Industry in Transition Stage

The natural gas industry is now in a critical period, and is in a transition stage going from a basis of large volume and low rates to lower volume and higher rates. This does not mean that the industry is on the road to destruction; on the contrary, the following of rational conservation policies will greatly lengthen the life and stabilize the industry for future service.

The reserve acreage holdings of the United Fuel Gas Company may prolong the life of its producing property beyond the average, provided a fair percentage of the untested lands shall prove valuable. Its life, however, in any event, will be greatly diminished if exhaustion continues at the rate of the past two years, due largely to the sale of gas to factories in competition with coal.

Sec. 12—Domestic Load Characteristics

The variation in seasonable domestic natural gas loads is shown on Plate 3. Abnormal peaks of very short duration and closely related to atmospheric temperature fluctuations are characteristic of all natural gas load curves for domestic consumption. The total monthly natural gas sold and purchased by the United Fuel Gas Company is shown on Plate 3, while the variation in the demands of the United Fuel Gas Company's own industrial and domestic consumers is shown on Plate 4. It is important to note here that the industrial load very largely only fills in the off-peak demands of the domestic consumers. The variation in hourly rates of flow for the United Fuel Gas Company's own domestic consumers is shown in the following:

Maximum hourly rate of flow					2,030	"M"	cu. ft.
Average	"	"	"	"	710	"	"
Minimum	"	"	"	"	178	"	"

The variation in average annual domestic consumption of all of the United Fuel Gas Company's own domestic consumers is shown on Plate 5.

The variation in annual domestic consumption at Ashland, Kentucky; Ironton, Ohio; Huntington, Charleston and Spencer, West Virginia, is shown on Plates 6, 7, 8, 9 and 10.

At Louisville, Kentucky, the domestic heating service demands increased on an average of 150 "M" cu. ft. of natural gas per day for each degree below 70° Fahrenheit.

Sec. 13—Why Industrial Gas Has Been Sold

"In the preceding section it was shown that the average load on a natural gas plant was only about one-third of the total capacity necessary to meet

the winter demand. This emphasizes the many opportunities for rendering service which the domestic consumer cannot utilize. In order to sell gas cheaper to the domestic consumer and use the plant for a larger number of hours, the companies began selling gas to industrial users during the summer months, when the domestic consumption was very low. Since in most fields there is unrestricted competition between various companies, this had the immediate effect to make it impossible for any one company to conserve the gas for future use without co-operation with its competitors. The public has frowned upon any arrangements for co-operation on the theory that competition was desirable. This has resulted in a wild race between the various companies, each trying to get the gas out of the field, with the result that the supplies were drained very heavily and are, therefore, not available for further use."

—United States Fuel Administration, Use and Conservation of Natural Gas—Especially adapted for use in schools.

"The prices of natural gas for domestic consumption have generally been so low as not to provide, if only domestic sales were made, even sufficient income for overhead charges and operating expenses, so that in every case recourse has been had to large sales for industrial purposes to make up the deficiency. For these large sales which do not appreciably increase operating expenses, and do not require additional investment, and therefore do not increase overhead charges, the prices made have been relatively very low. Sometimes, of course, these sales have brought in large profits to the company, with the result that fields have been depleted in one-quarter or one-third of the time that they would have been under a different adjustment of rates and sales. Restricted use of natural gas for industrial purposes is of immeasurable benefit to a community, but unlimited and uneconomical use, because of cheapness, is a calamity for which every individual of the community will eventually have to pay."

—U. S. Bureau of Mines—Dallas, Texas, Report—January, 1916.

Sec. 14—Reserve Acreage

In order to render service in the future, it is necessary to carry undrilled acreage at the present time in order to have it available for future drilling. The decline of the United Fuel Gas Company's average is shown on Plate 11. The general decline for the entire state of West Virginia is shown on Plate 12.

The carrying of this reserve acreage represents a substantial part of the total cost of the service. In the case of the United Fuel Gas Company, for every dollar received, 10 cents goes back to the land owner for lease rentals and royalties. The small producer with no obligation to the public does not do this, and while his present production cost may be lower for this reason, he is unable to render the continuous service required of public utility companies.

The relation of the operated, reserve, and total natural gas acreage of the United Fuel Gas Company is shown on Plate 13.

PART II

CONSPICUOUS INCREASED COST FEATURES

Sec. 15—Difference in Service Standards

The public has asked for many refinements of service that were not dreamed of by natural gas companies ten years ago. As these refinements increase the cost of the service, they must naturally have the immediate effect of increasing the cost of gas.

Sec. 16—Regulating Measures

Within the last ten years, numerous national, state and local regulating measures have been enforced, which are more or less troublesome to operating companies. All reports that gas companies must make require money for their preparation, and this money can come ultimately from only one source, namely, the natural gas consumer.

Sec. 17—Rock Pressure Decline

The term "rock pressure" means the natural pressure of the gas in the gas sand, resulting from the inherent tendency of the gas to expand. Rock pressure decline curves of typical wells of the United Fuel Gas Company are shown on Plates 14 to 25. The rock pressure of wells has a direct bearing on the intake pressure that may be maintained at the gas compressors.

The output of a typical compressor operating against a discharge pressure of 300 lbs. gage is as follows, for the respective intake pressures:

Intake pressure above atmosphere	Capacity in million cu. ft. free gas per 24 hours, based on 14.4 lbs. atmospheric pressu
150 lbs.	30
100 "	20
75 "	15
50 "	10
30 "	6
20 "	4

This accounts for the increased compressor ca pacity necessary, as shown on Plate 26.

Sec. 18—Intensive and Extensive Use of Gas Compressor

In order to get every foot of gas out of th ground that can be obtained, it will be desirable i the future to use more compressing stations an operate existing compressing stations at lowe intake pressures. In the broad public interest i will be desirable to remove every foot of gas fro the ground that can be obtained, and every appli ance known to gas mining should be used to bring about the most complete exhaustion of the gas sands that can be commercially obtained. The in crease in horse power of compressors necessary to render service is shown on Plate 26.

Sec. 19—Decline in Average Open Flow of Natural Gas Wells

The term "open" or "natural flow" means merely the entire volume of gas that will issue from the mouth of a gas well when retarded only by the atmospheric pressure. While the open flow is an index of a well's delivering capacity, it is not an exact measure of its output under routine operating conditions, because the actual delivery, on account of the back pressure that the well must discharge against, will always be less than the open flow.

The decline in average open flow capacity of new wells is shown on Plate 27.

Sec. 20—Decline in Average Annual Production

The average decline of production per well and increasing numbers of wells necessary is shown on Plate 28.

Sec. 21—Increasing Cost of Wells

The increasing cost of producing natural gas wells is shown on Plate 29.

Sec. 22—Increasing Length of Haul

The increase in total length of mains in use at end of each year as an index of length of haul is shown on Plate 30.

Sec. 23—Commodity Prices

Prices of wholesale clothing, wholesale metals, wholesale farm products and wholesale food products in the United States have increased much faster than the United Fuel Gas Company's domestic rates, as shown on Plates 31 to 34 inclusive.

Sec. 24—Increasing Labor Costs

The following shows some representative unit prices of labor for the years 1913 and 1918, with the percentage of increase:

	1913	1918	Percentage increase 1918 over 1913
Tester	$100.0 mo.	$160.00 mo.	60%
Rooster	71.50 "	95.00 "	33%
Line Walker	66.00 "	95.00 "	44%
Well Blower	71.50 "	100.00 "	39%
Laborer	71.50 "	90.00 "	25%
Well Man	71.50 "	90.00 "	25%
Station Man	71.50 "	95.00 "	33%
Meter Man	75.00 "	100.00 "	33%
Teamster	65.00 "	100.00 "	54%
Lineman	65.00 "	110.00 "	69%
Compr. Sta. Engineer	70.00 "	120.00 "	71%
Tool Dresser	4.25 day	8.00 day	88%
Driller	5.25 "	9.00 "	71%

Sec. 25—Increasing Material Costs

The following shows some representative prices of typical natural gas plant material for the years 1913 and 1918, with the percentage of increase for this 5-year period:

	Price 1913	Price 1918	Percentage increase 1918 over 1913
Manilla Drilling Cables	.1425	.34	138%
Rig Irons	142.50	266.65	87%
Rig Timbers	20.00 M	50.00 M	150%
Rig Patterns	19.60 M	50.00 M	155%
Pipe—1"	.033	105	218%
" 2"	.08	.19	137%
Tubing—2"	.12	.2975	148%
" 3"	.19	.51	168%
Casing—5⅜"	.31	.81	161%
" 6⅝"	.46	1.22	165%
" 8¼"	.62	1.50	141%
Belts—95 ft	.56 ft	1.40 ft	150%
Anchor Packer	22.75	39.89	75%
Gate Valves—2"	4.43	12.00	170%
" " 3"	9.60	20.40	112%
" " 4"	14.65	29.75	103%
Line Pipe—3"	.15	.475	216%
" " 6"	.37	1.19	221%
" " 8"	.62	1.76	184%
" " 10"	.94	2.25	139%

Sec. 26—Increasing Taxes

The annual increase in taxes per "M" cu. ft. of gas sold is shown on Plate 35.

Sec. 27—Increased Cost Per Million Cu. Ft. Open Flow Capacity of New Gas Wells

This increase is brought about by the condition of declining capacity of new wells and increased drilling cost. Thus, in the year 1910 the average drilling cost for each million cu. ft. of open flow capacity obtained was $1,248, and this increased to $2,730 in 1918.

PLATE 1

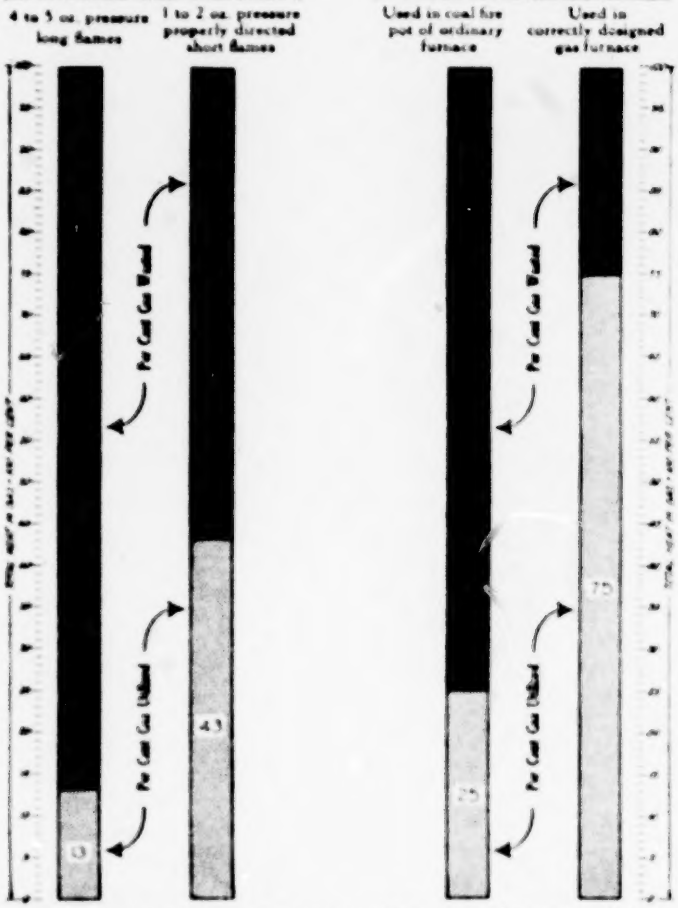
HOME WASTES OF NATURAL GAS

Cooking

Based on tests* made by the
Department of Home Economics
Ohio State University
Columbus, Ohio

Furnace Heating

Based on data published by**
Smithsonian Institution
Washington, D. C.


4 to 5 oz. pressure long flames
1 to 2 oz. pressure properly directed short flames
Per Cent Gas Wasted
Per Cent Gas Utilized
3
43
Used in coal fire pot of ordinary furnace
Used in correctly designed gas furnace
25
75

*Ohio State University Bulletin No. 28. Effect of Gas Pressure on Natural Gas Cooking Operation in the Home.

**Smithsonian Institution Bulletin No. 102, Part 7 on "Natural Gas: Its Production, Service and Conservation."

PLATE 2

ANALYSIS OF HOME WASTES OF NATURAL GAS

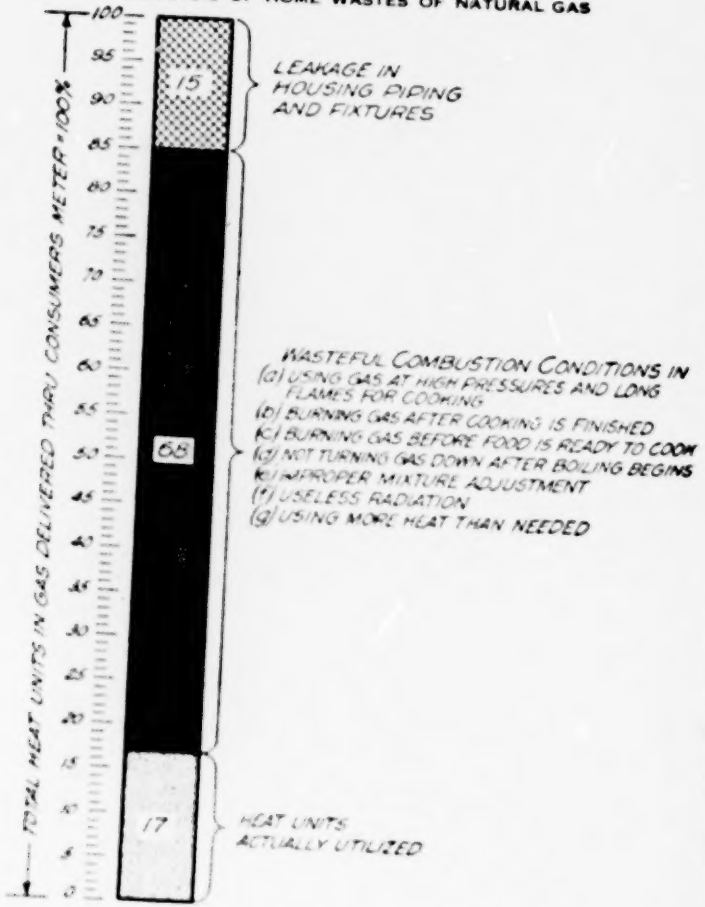


PLATE 3

MONTHLY NATURAL GAS SOLD AND GAS PURCHASED
OF
THE UNITED FUEL GAS COMPANY

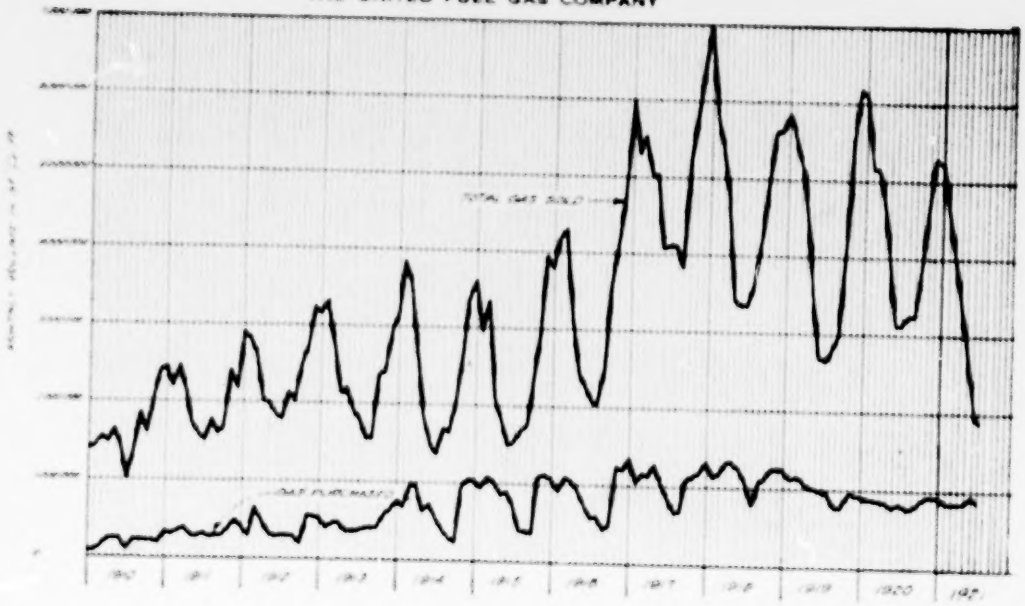


PLATE 4

MONTHLY DOMESTIC AND INDUSTRIAL NATURAL GAS SOLD
TO
THE UNITED FUEL GAS COMPANY'S OWN CONSUMERS
IN
WEST VIRGINIA, KENTUCKY, AND OHIO

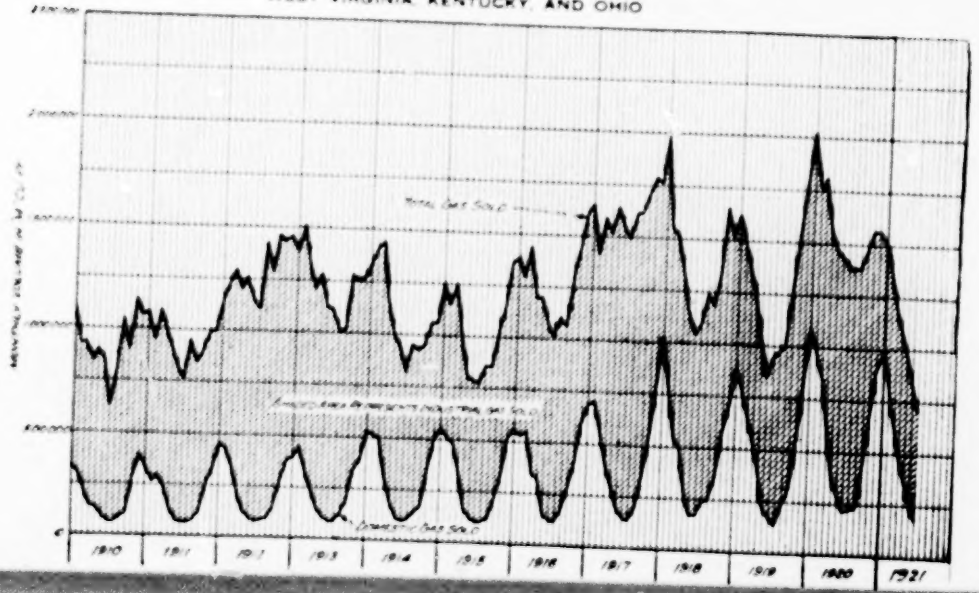


PLATE 5

"M" CU. FT. NATURAL GAS USED PER DOMESTIC CONSUMER PER ANNUM BY THE UNITED FUEL GAS CO'S OWN DOMESTIC CONSUMERS

This average varied from 156 "M" in 1910, with a maximum of 167 "M" in 1918. This shows, in general, an increase in the demands for gas service, and a corresponding increase in the variability of peak load.

PLATE 6

DOMESTIC NATURAL GAS RATES
AND
DOMESTIC NATURAL GAS CONSUMPTION
OF
THE UNITED FUEL GAS COMPANY, AT ASHLAND, KY.

The consumption increased from 121 "M" cu. ft. in 1910 to 163 "M" cu. ft. in 1918. During this same period the rate decreased from 25c net per "M" cu. ft. to 20c net per "M" cu. ft.

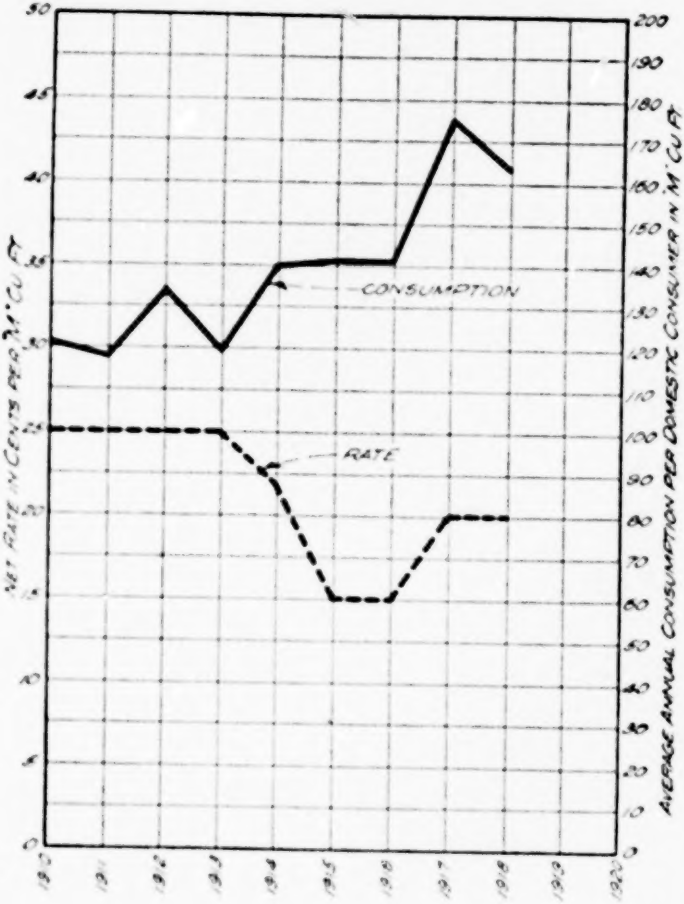


PLATE 7

DOMESTIC NATURAL GAS RATES
AND
DOMESTIC NATURAL GAS CONSUMPTION
OF
THE UNITED FUEL GAS COMPANY, AT IRONTON, OHIO

The consumption increased from 110 "M" cu. ft. in 1910 to 114 "M" cu. ft. in 1918. During this same period the rate remained uniform.

PLATE 8

DOMESTIC NATURAL GAS RATES
AND
DOMESTIC NATURAL GAS CONSUMPTION
OF
THE UNITED FUEL GAS CO., AT HUNTINGTON, W. VA.

The consumption increased from 124 "M" cu. ft. in 1910 to 154 "M" cu. ft. in 1918. During this same period the rate decreased from 25c net per "M" cu. ft. to 17c net per "M" cu. ft.

PLATE 9

DOMESTIC NATURAL GAS RATES
AND
DOMESTIC NATURAL GAS CONSUMPTION
OF
THE UNITED FUEL GAS CO., AT CHARLESTON, W. VA.

The consumption increased from 176 "M" cu. ft. in 1910 to 181 "M" cu. ft. in 1918. During this same period the rate decreased from 20c net per "M" cu. ft. to 16c net per "M" cu. ft.

PLATE 10

DOMESTIC NATURAL GAS RATES AND DOMESTIC NATURAL GAS CONSUMPTION OF THE UNITED FUEL GAS COMPANY, AT SPENCER, W. VA.

The consumption increased from 125 "M" cu. ft. in 1913 to 133 "M" cu. ft. in 1918. During this same period the rate increased from 10c net per "M" cu. ft. to 15c net per "M" cu. ft.

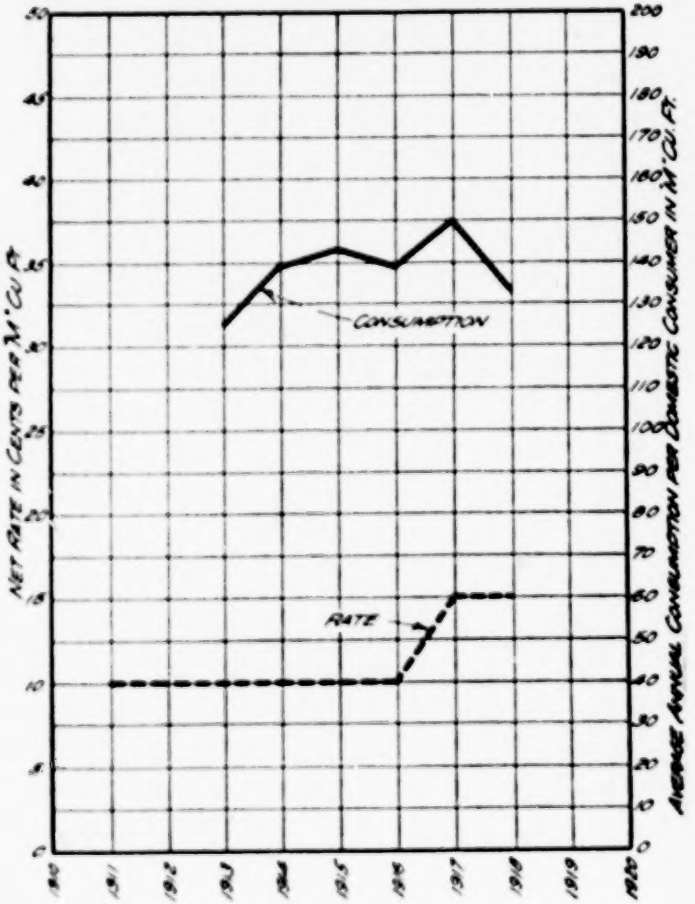


PLATE 11

DECLINE IN NUMBER ACRES NATURAL GAS LAND RESERVED FOR EACH PRODUCING NATURAL GAS WELL OF THE UNITED FUEL GAS COMPANY, IN W. VA. AND KY.

In 1910 an average of 3,912 acres was held for each producing well. This declined by 1918 to 1,074 acres.

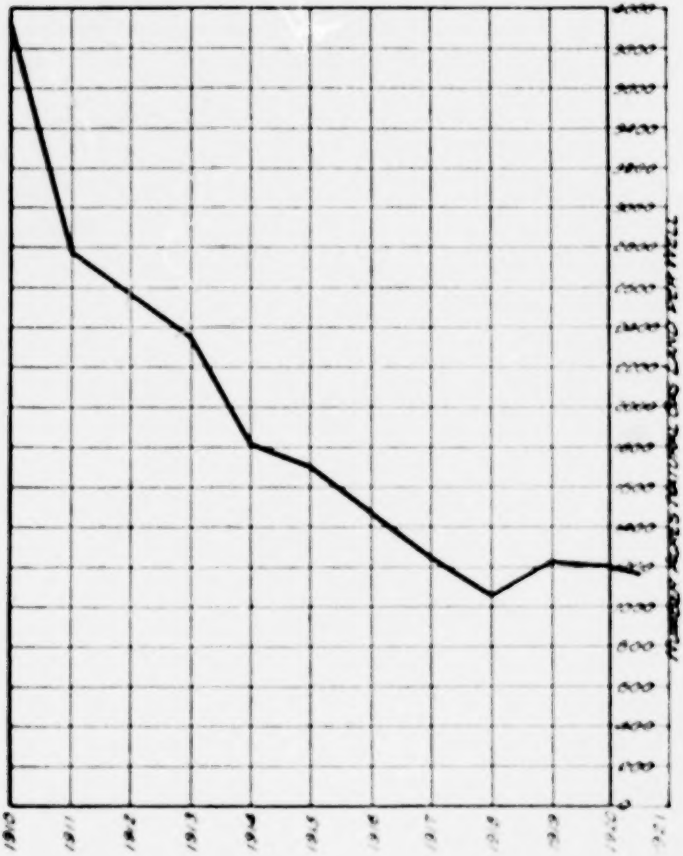


PLATE 12

GENERAL DECLINE WEST VIRGINIA NATURAL GAS RESOURCES

The following comparisons are based on data compiled by the United States Geological Survey. The average number of acres land held for each natural gas well in 1906 was 586 acres, and this increased to 994 acres in 1909 and then declined to 406 acres by 1917. The annual average delivering capacities of natural gas wells in 1906 was 65 million cu. ft. and this declined to 32 million cu. ft. by 1917; that is, in 11 years the average delivering capacity was halved.

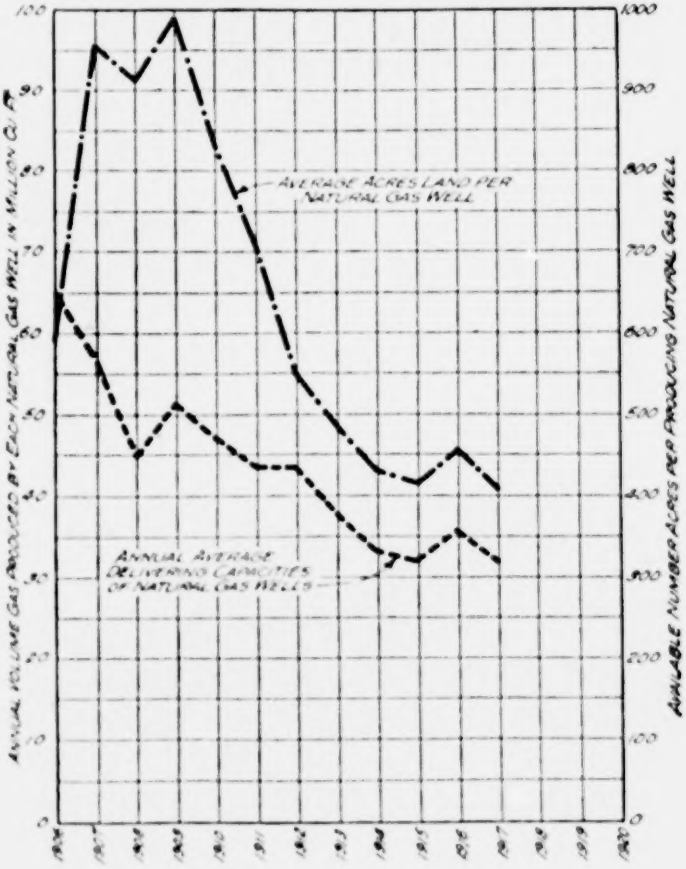


PLATE 13

OPERATED, RESERVE AND TOTAL NATURAL GAS ACREAGE OF THE UNITED FUEL GAS COMPANY, IN W. VA. AND KY.

The shaded area, which is the difference between the total and operated acreage, represents the reserve acreage. While the operated acreage has about doubled, the number of producing wells has more than trebled so that the average per well has declined, as shown on Plate 11.

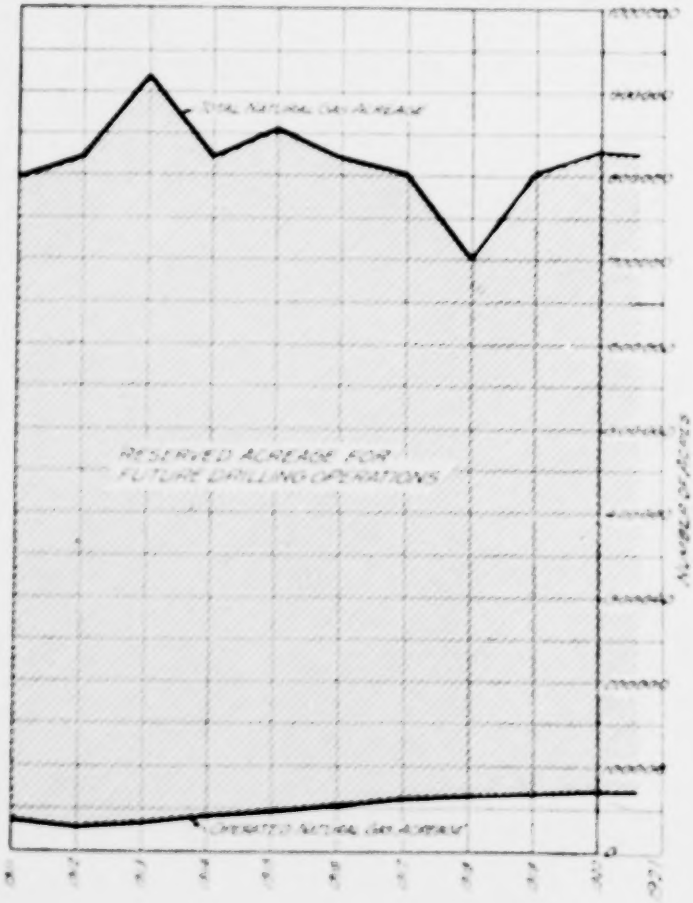


PLATE 14

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN WEIR SAND
OF
THE UNITED FUEL GAS COMPANY
IN BIG SANDY DIST., KANAWHA CO., W. VA.

Well No. 494, drilled in 1913, had an original rock pressure of 530 pounds; by 1918 this declined to 255 pounds.

Well No. 449, drilled in 1913, had an original rock pressure of 410 pounds; by 1918 this declined to 185 pounds.

Well No. 458, drilled in 1913, had an original rock pressure of 350 pounds; by 1918 this declined to 170 pounds.

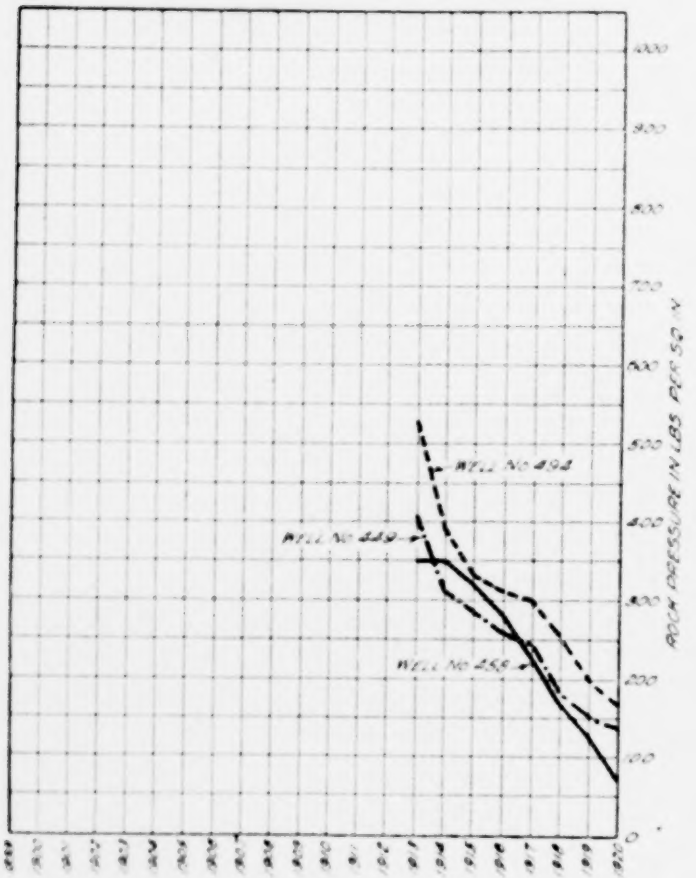


PLATE 15

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN BIG INJUN SAND
OF
THE UNITED FUEL GAS COMPANY
IN BIG SANDY DIST., KANAWHA CO., W. VA.

Well No. 21, drilled in 1906, had an original rock pressure of 430 pounds; by 1918 this declined to 310 pounds.

Well No. 24, drilled in 1905, had an original rock pressure of 520 pounds; by 1918 this declined to 295 pounds.

Well No. 31, drilled in 1906, had an original rock pressure of 505 pounds; by 1918 this declined to 325 pounds.

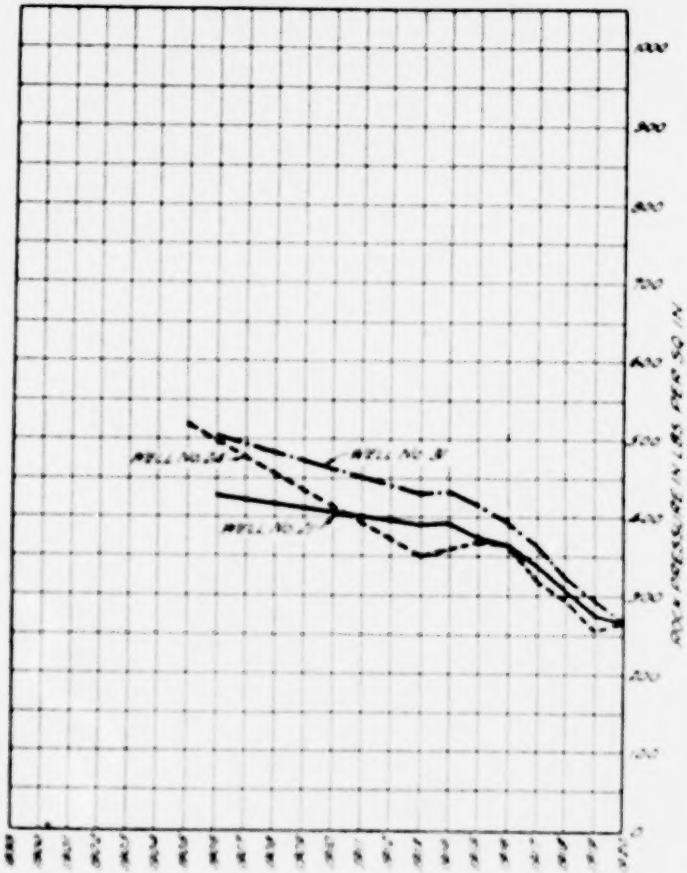


PLATE 16

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN SQUAW SAND
OF
THE UNITED FUEL GAS COMPANY
IN KANAWHA CO., W. VA.

Well No. 472, drilled in 1912, had an original rock pressure of 475 pounds; by 1918 this declined to 115 pounds.

Well No. 123, drilled in 1909, had an original rock pressure of 480 pounds; by 1918 this declined to 252 pounds.

Well No. 420, drilled in 1912, had an original rock pressure of 500 pounds; by 1918 this declined to 205 pounds.

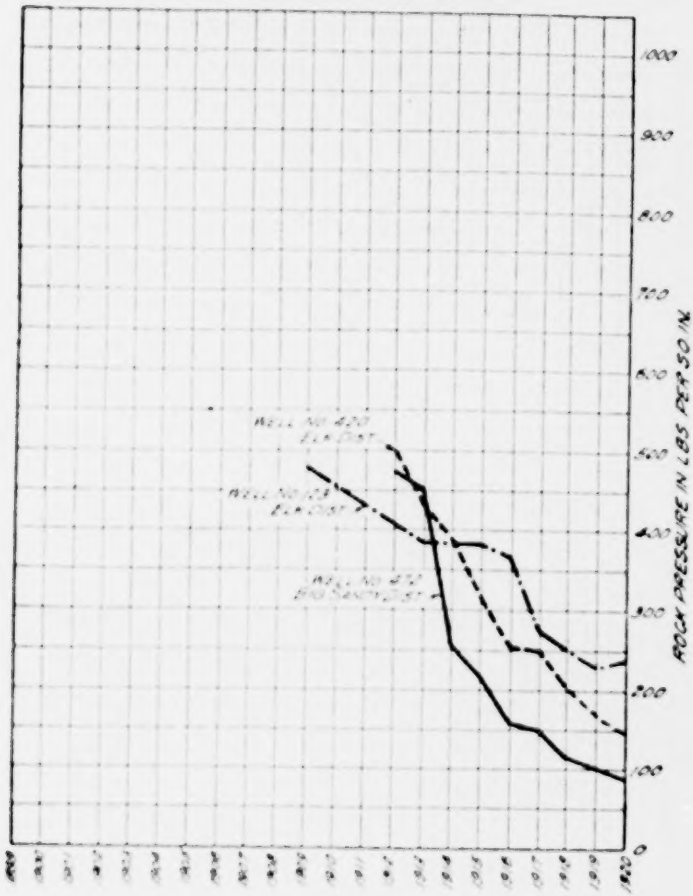


PLATE 17

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN BIG INJUN SAND
OF
THE UNITED FUEL GAS COMPANY
IN BIG SANDY DIST., KANAWHA CO., W. VA.

Well No. 33, drilled in 1906, had an original rock pressure of 480 pounds; by 1918 this declined to 321 pounds.
Well No. 118, drilled in 1907, had an original rock pressure of 515 pounds; by 1918 this declined to 310 pounds.
Well No. 175, drilled in 1910, had an original rock pressure of 505 pounds; by 1918 this declined to 298 pounds.

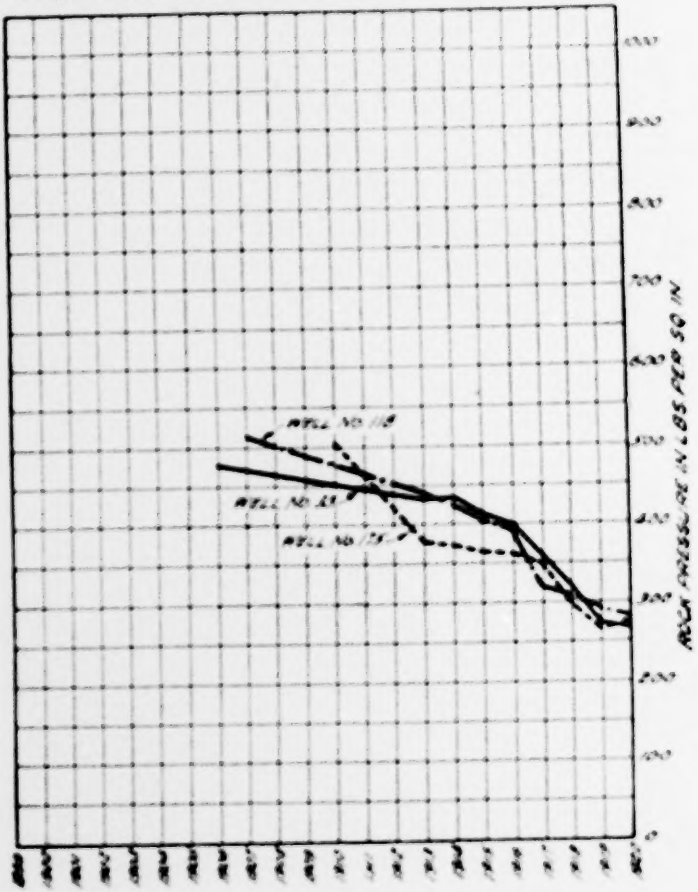


PLATE 18

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN BIG INJUN SAND
OF
THE UNITED FUEL GAS COMPANY
IN UNION DIST., CLAY COUNTY, W. VA.

Well No. 169, drilled in 1910, had an original rock pressure of 485 pounds; by 1918 this declined to 315 pounds.

Well No. 281, drilled in 1911, had an original rock pressure of 420 pounds; by 1918 this declined to 205 pounds.

Well No. 203, drilled in 1910, had an original rock pressure of 490 pounds; by 1918 this declined to 195 pounds.

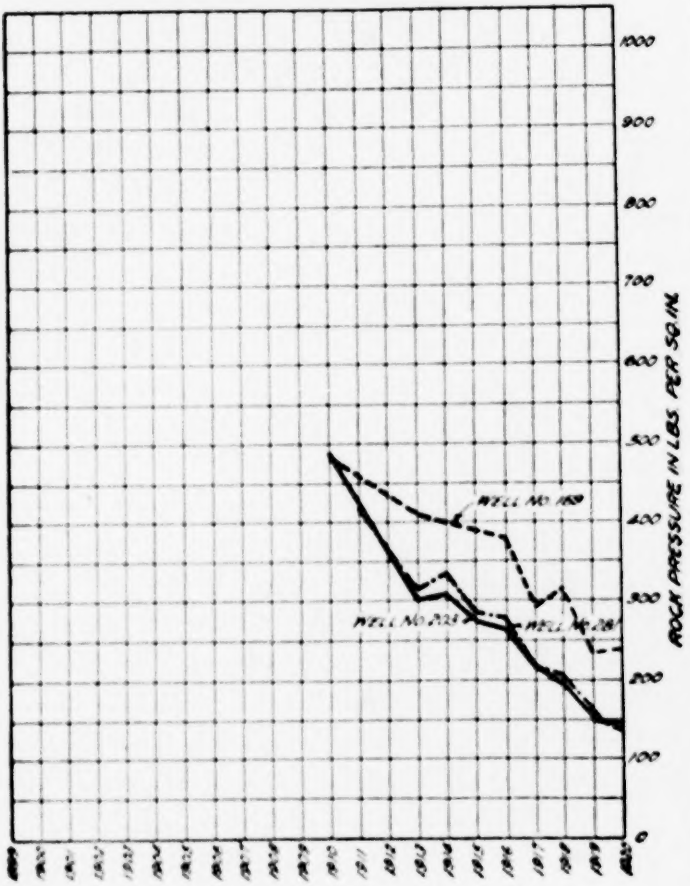


PLATE 19

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN BEREA SAND
OF
THE UNITED FUEL GAS COMPANY
IN JACKSON AND ROANE COUNTIES, W. VA.

Well No. 323, drilled in 1910, had an original rock pressure of 1020 pounds; by 1918 this declined to 535 pounds.

Well No. 138, drilled in 1910, had an original rock pressure of 950 pounds; by 1918 this declined to 338 pounds.

Well No. 170, drilled in 1910, had an original rock pressure of 750 pounds; by 1918 this declined to 195 pounds.

PLATE 20

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN SALT SAND
OF
THE UNITED FUEL GAS COMPANY
IN ROANE COUNTY, W. VA.

Well No. 953, drilled in 1917, had an original rock pressure of 560 pounds; by 1918 this declined to 392 pounds.

Well No. 319, drilled in 1910, had an original rock pressure of 615 pounds; by 1918 this declined to 455 pounds.

Well No. 314, drilled in 1910, had an original rock pressure of 320 pounds; by 1918 this declined to 70 pounds.

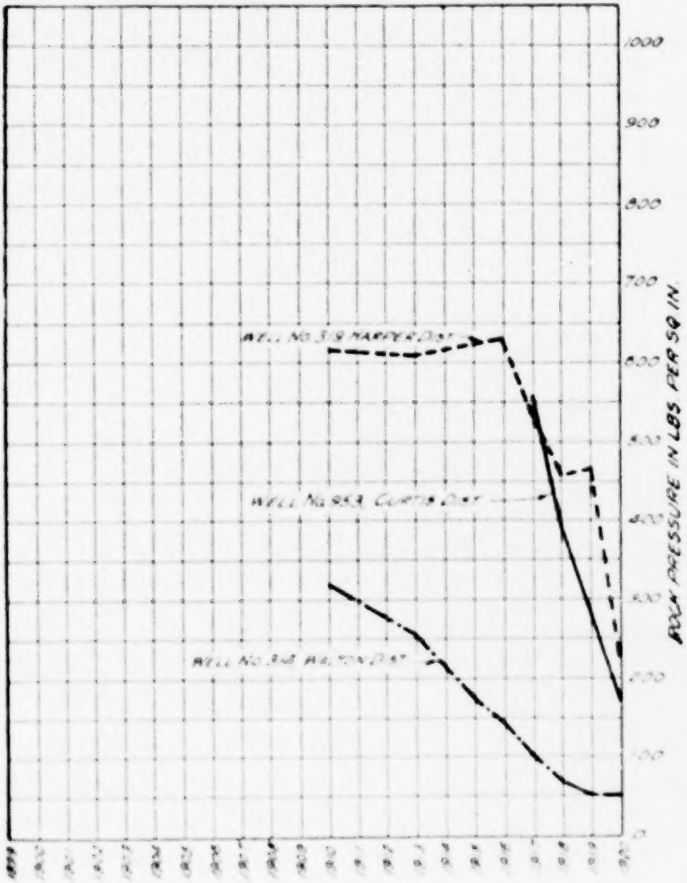


PLATE 21

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN BIG INJUN SAND
OF
THE UNITED FUEL GAS COMPANY
IN ROANE COUNTY, W. VA.

Well No. 47, drilled in 1908, had an original rock pressure of 500 pounds; by 1918 this declined to 350 pounds.

Well No. 4, drilled in 1902, had an original rock pressure of 500 pounds; by 1918 this declined to 370 pounds.

Well No. 11, drilled in 1905, had an original rock pressure of 505 pounds; by 1918 this declined to 360 pounds.

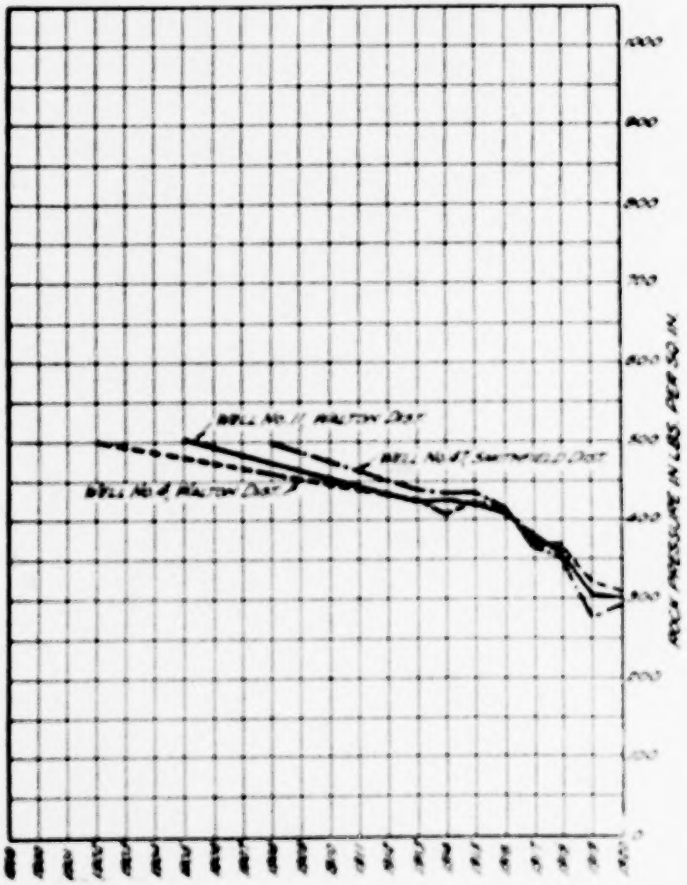


PLATE 22

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN BIG INJUN SAND
OF
THE UNITED FUEL GAS COMPANY
IN GEARY DIST., ROANE CO., W. VA.

Well No. 1, drilled in 1899, had an original rock pressure of 500 pounds; by 1918 this declined to 360 pounds.

Well No. 3, drilled in 1901, had an original rock pressure of 500 pounds; by 1918 this declined to 370 pounds.

Well No. 10, drilled in 1904, had an original rock pressure of 505 pounds; by 1918 this declined to 310 pounds.

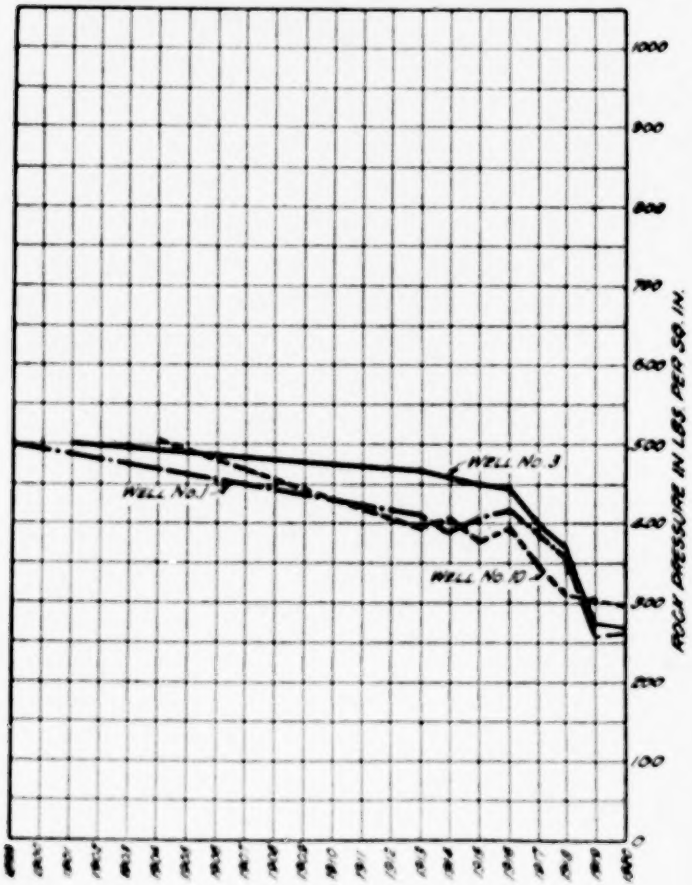


PLATE 23

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN LIME SAND
OF
THE UNITED FUEL GAS COMPANY
IN LOGAN AND WAYNE COUNTIES, W. VA.

Well No. 326, drilled in 1910, had an original rock pressure of 578 pounds; by 1918 this declined to 325 pounds.
Well No. 473, drilled in 1913, had an original rock pressure of 460 pounds; by 1918 this declined to 263 pounds.

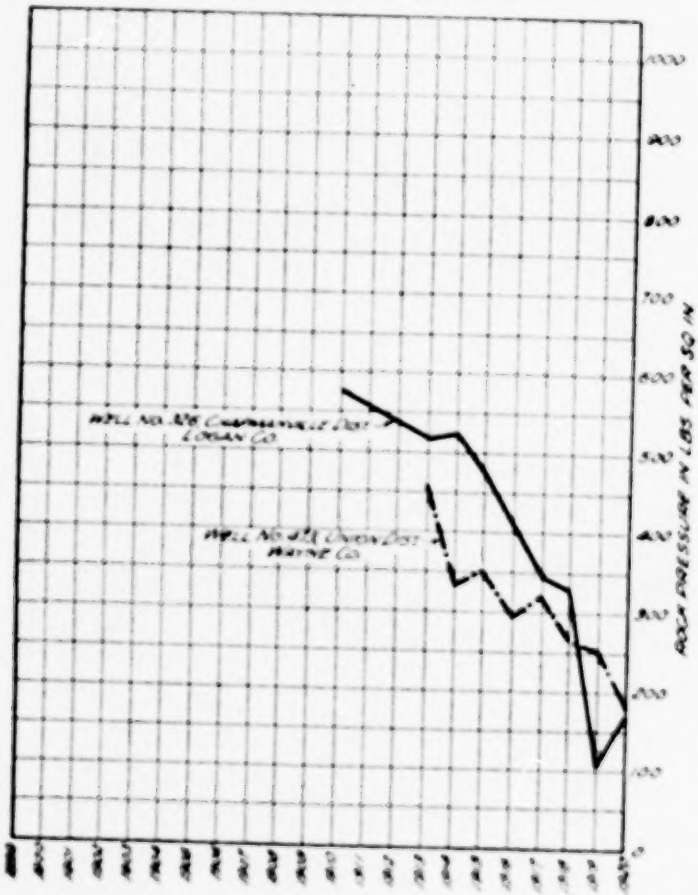


PLATE 24

ROCK PRESSURE DECLINE
OF
TYPICAL NATURAL GAS WELLS IN MAXON SAND
OF
THE UNITED FUEL GAS COMPANY
IN MARTIN COUNTY, KY.

Well No. 67, drilled in 1899, had an original rock pressure of 270 pounds; by 1918 this declined to 108 pounds.

Well No. 86, drilled in 1901, had an original rock pressure of 155 pounds; by 1918 this declined to 85 pounds.

Well No. 108, drilled in 1905, had an original rock pressure of 275 pounds; by 1918 this declined to 130 pounds.

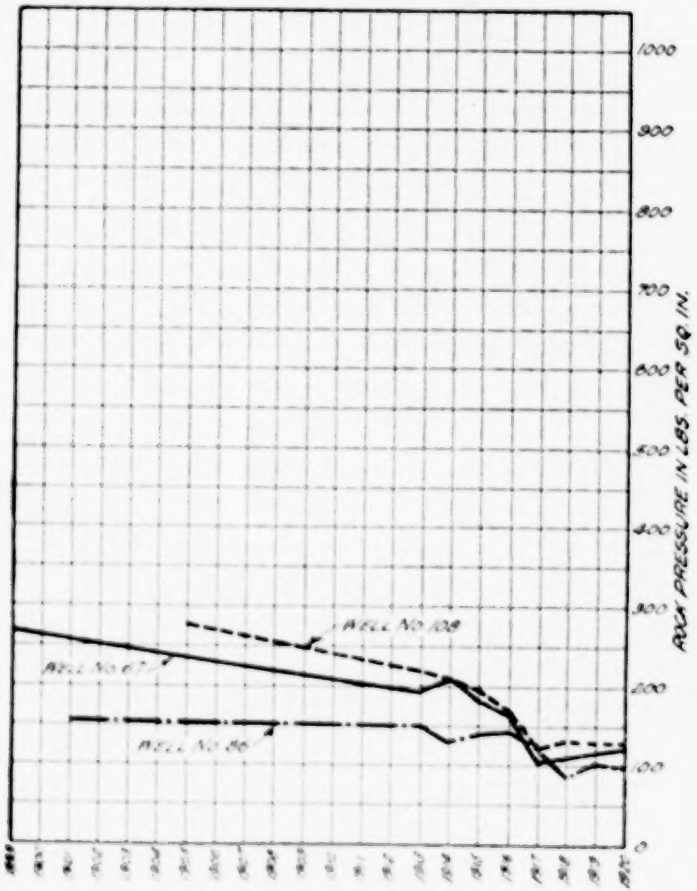


PLATE 25

ROCK PRESSURE DECLINE OF TYPICAL NATURAL GAS WELLS IN MAXON AND LIME SANDS OF THE UNITED FUEL GAS COMPANY IN MINGO CO., W. VA., AND MARTIN CO., KY.

Well No. 88, drilled in 1899, had an original rock pressure of 275 pounds; by 1918 this declined to 120 pounds.

Well No. 110, drilled in 1905, had an original rock pressure of 421 pounds; by 1918 this declined to 180 pounds.

Well No. 408, drilled in 1912, had an original rock pressure of 310 pounds; by 1918 this declined to 197 pounds.

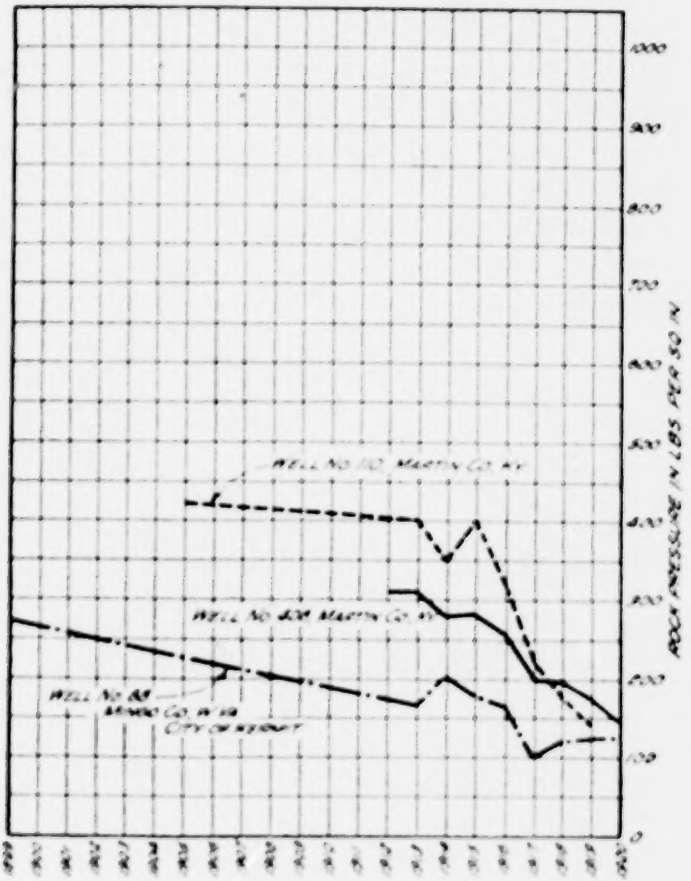


PLATE 26

INCREASE IN HORSE POWER CAPACITY OF COMPRESSORS NECESSARY FOR NATURAL GAS TRANSMISSION OF THE UNITED FUEL GAS COMPANY IN WEST VIRGINIA AND KENTUCKY

The compressor capacity in horse power in 1913 was 2,980, and this was increased to 21,530 by 1918, on account of the rapidly declining rock pressure.

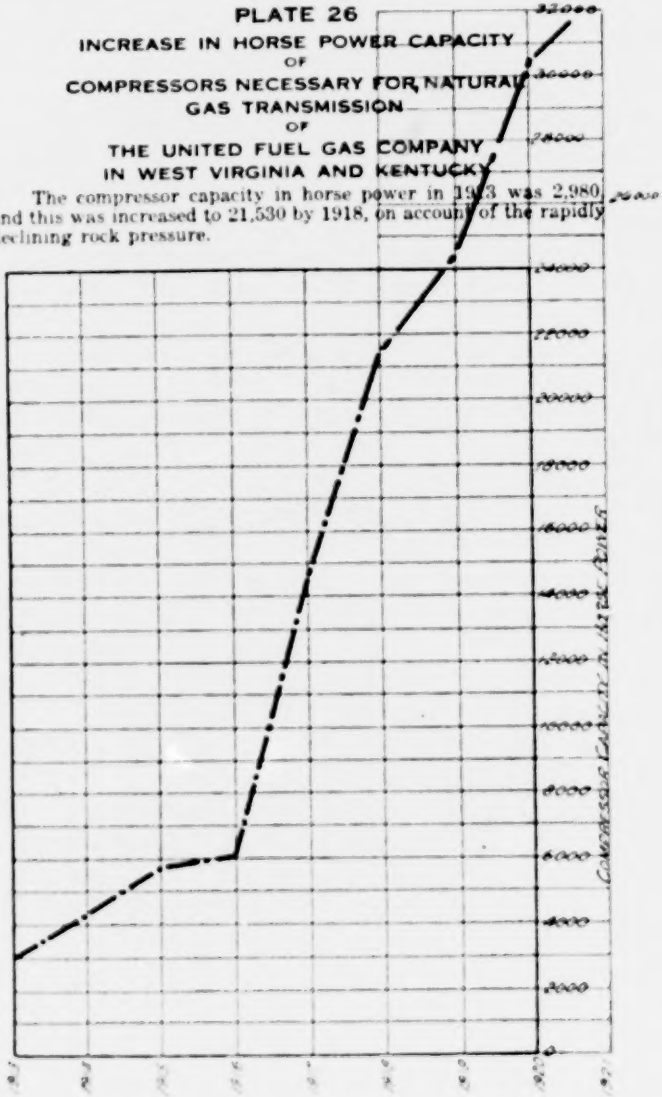


PLATE 27

DECLINE IN AVERAGE OPEN FLOW CAPACITY OF NEW NATURAL GAS WELLS OF THE UNITED FUEL GAS COMPANY IN W. VA. AND KY.

In 1903 the average open flow capacity was 7,422,000 cu. ft.; by 1918 this declined to 2,118,000 cu. ft.

This is the average open flow capacity of all wells drilled, the dry holes having been averaged in with the producing wells.

The marked increase in 1917 was due to the drilling in of five unusually large wells.

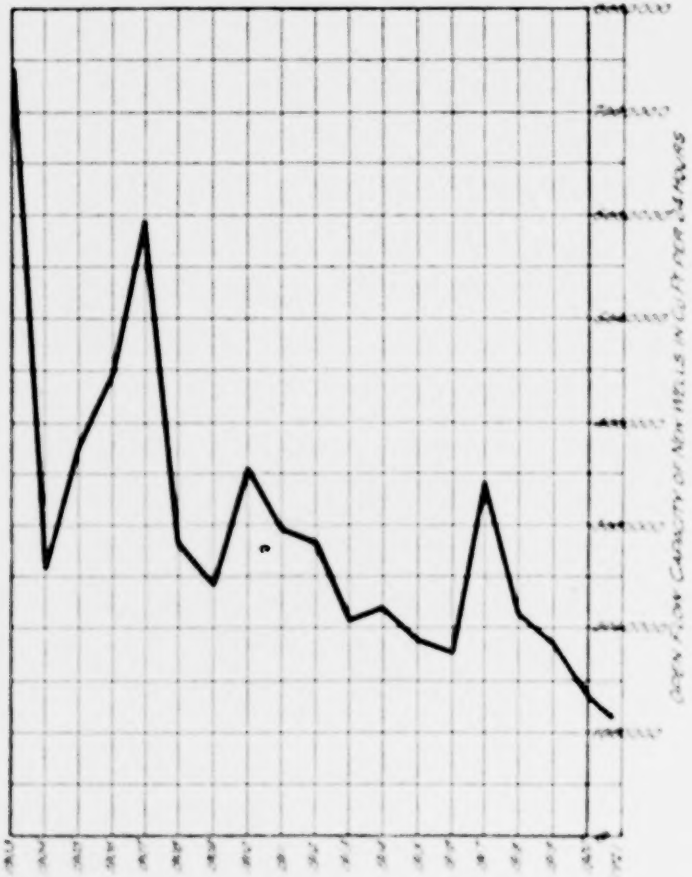


PLATE 28

DECLINE IN AVERAGE ANNUAL PRODUCTION OF NATURAL GAS WELLS AND INCREASE IN NUMBER OF NATURAL GAS WELLS OF THE UNITED FUEL GAS COMPANY IN W. VA. AND KY.

In 1910 the average annual production per well was 82,650 "M" cu. ft. By 1918 this declined to 65,531 "M" cu. ft. The marked increase in production in 1916 and 1917 was due to the abnormal demands made on wells on account of war conditions, and the unprecedented cold weather. In 1910 there were 204 producing natural gas wells and by 1918 this increased to 656.

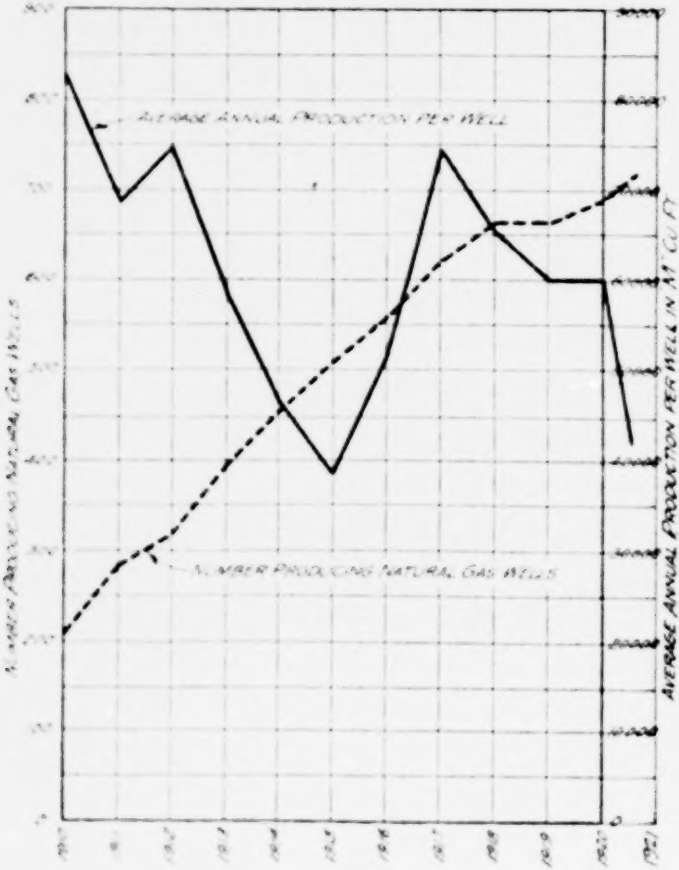


PLATE 29

INCREASING COST OF PRODUCING NATURAL GAS WELLS OF THE UNITED FUEL GAS COMPANY IN W. VA. AND KY.

In 1910 the average cost of each producing well was $6,057, and this increased to $9,731 by 1918. The dry holes that must be drilled in order to get the producing wells, of course, increase the total cost of the producing wells and on the basis of adding the dry hole cost to the producing wells the average cost of each producing well, including the dry holes, in 1910 was $6,462, and this increased to $10,902 by 1918.

These figures are based on re-used well material, which was, therefore, lower in cost than new material at present prices. Nor neither do they include the inevitable overhead charges on such construction work.

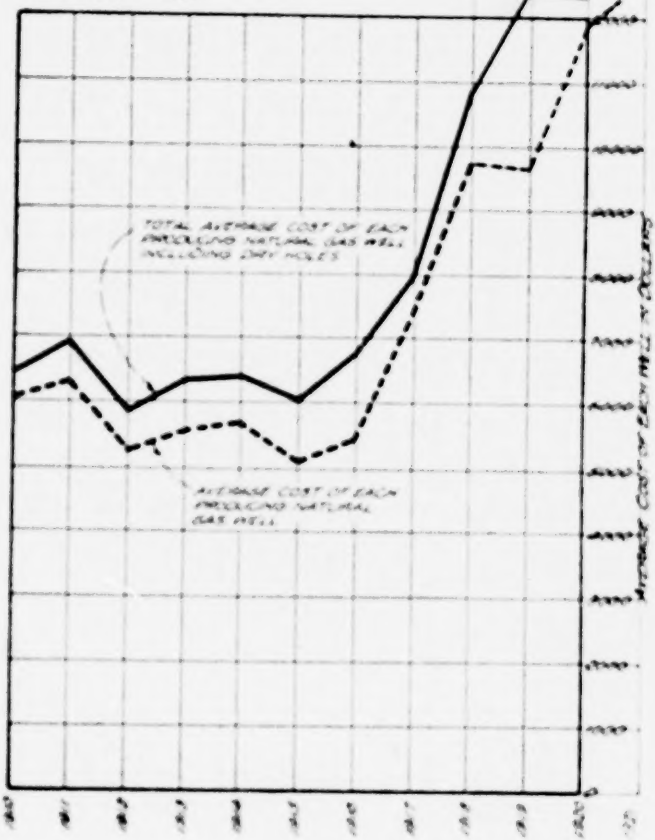

TOTAL AVERAGE COST OF EACH PRODUCING NATURAL GAS WELL INCLUDING DRY HOLES
AVERAGE COST OF EACH PRODUCING NATURAL GAS WELL

PLATE 30

TOTAL LENGTH OF NATURAL GAS MAINS IN USE
IN MILLION LINEAL FEET
AS AN INDEX OF INCREASING LENGTH OF GAS HAUL
OF
THE UNITED FUEL GAS COMPANY
IN
WEST VIRGINIA, KENTUCKY, AND OHIO

The production lines increased from 1.8 million in 1914 to 2.5 million in 1918, or an increase of 40 per cent.

The transmission lines increased from 2.2 million in 1914 to 2.7 million in 1918, or an increase of 22 per cent.

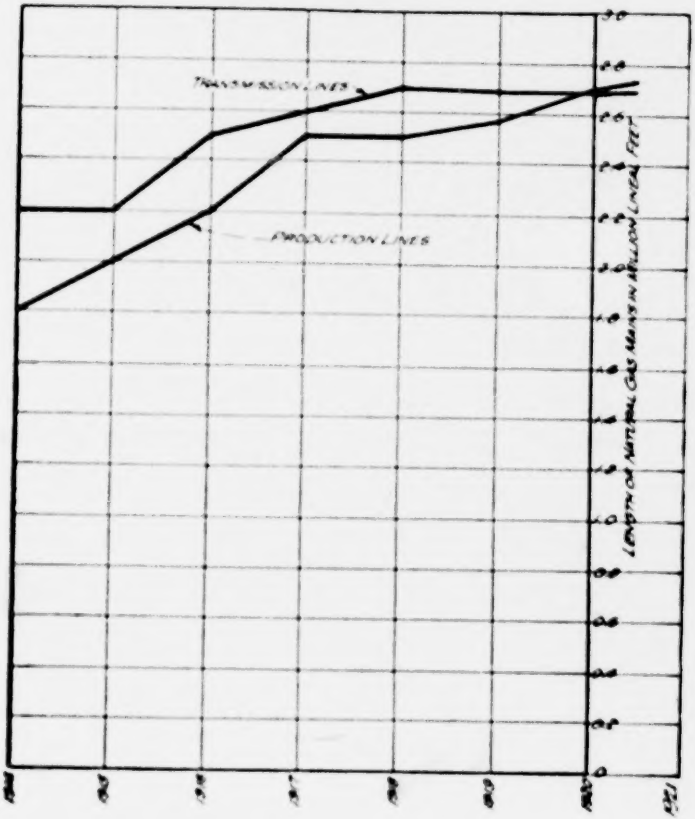


PLATE 31

RELATIVE PRICES
WHOLESALE METALS AND METAL PRODUCTS
AND
DOMESTIC NATURAL GAS RATES
OF
THE UNITED FUEL GAS COMPANY
AT CHARLESTON AND HUNTINGTON, W. VA.

The commodity prices are taken from page 102, Vol. 8, January, 1919, No. 1 Monthly Review of the United States Bureau of Labor Statistics.

The decrease in domestic natural gas rates in the 6 years from 1913 to 1918 was 20 per cent, as contrasted with an increase of 86 per cent in metals.

The retail prices for finished steel products, like pipe, have increased much more, as is shown in Sec. 25.

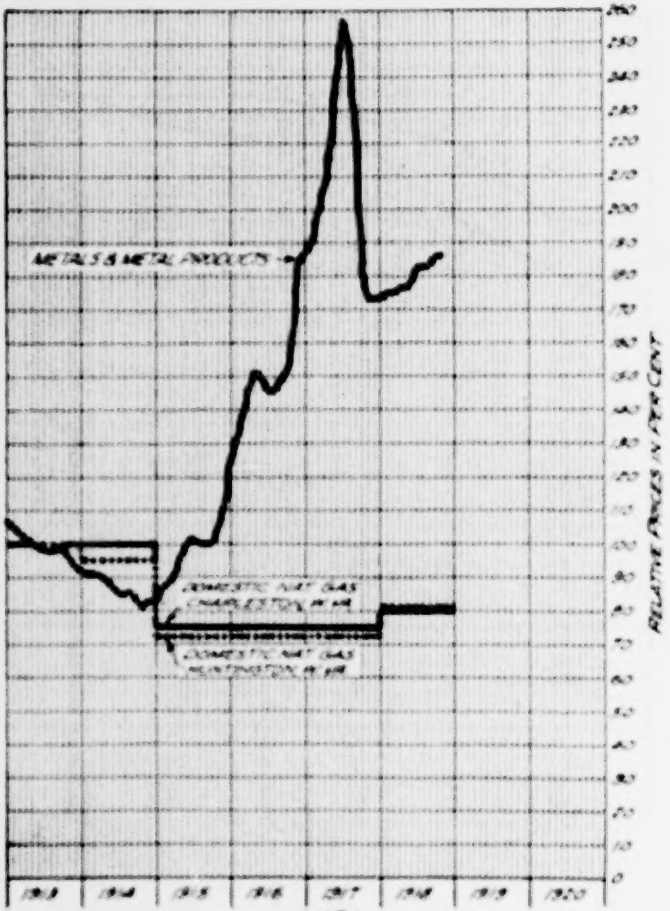


PLATE 32

RELATIVE PRICES
WHOLESALE FARM PRODUCTS IN THE UNITED STATES
AND
DOMESTIC NATURAL GAS RATES
OF
THE UNITED FUEL GAS COMPANY
AT CHARLESTON AND HUNTINGTON, W. VA

The commodity prices are taken from page 102, Vol. 8, January, 1919, No. 1 Monthly Review of the United States Bureau of Labor Statistics.

The decrease in domestic natural gas rates in the 6 years from 1913 to 1918, was 20 per cent, as contrasted with an increase of 120 per cent in farm products.

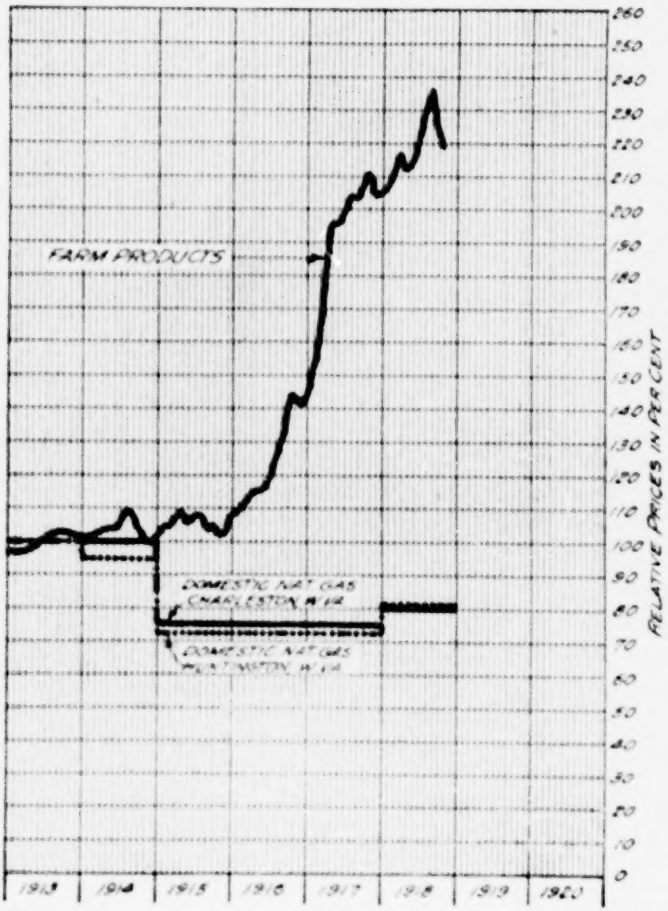


PLATE 33

RELATIVE PRICES

WHOLESALE FOOD PRODUCTS IN THE UNITED STATES AND DOMESTIC NATURAL GAS RATES OF THE UNITED FUEL GAS COMPANY AT CHARLESTON AND HUNTINGTON, W. VA.

The commodity prices are taken from page 102, Vol. 8, January, 1919, No. 1 Monthly Review of the United States Bureau of Labor Statistics.

The decrease in domestic natural gas rates in the 6 years from 1913 to 1918, was 20 per cent, as contrasted with an increase of 102 per cent in food stuffs.

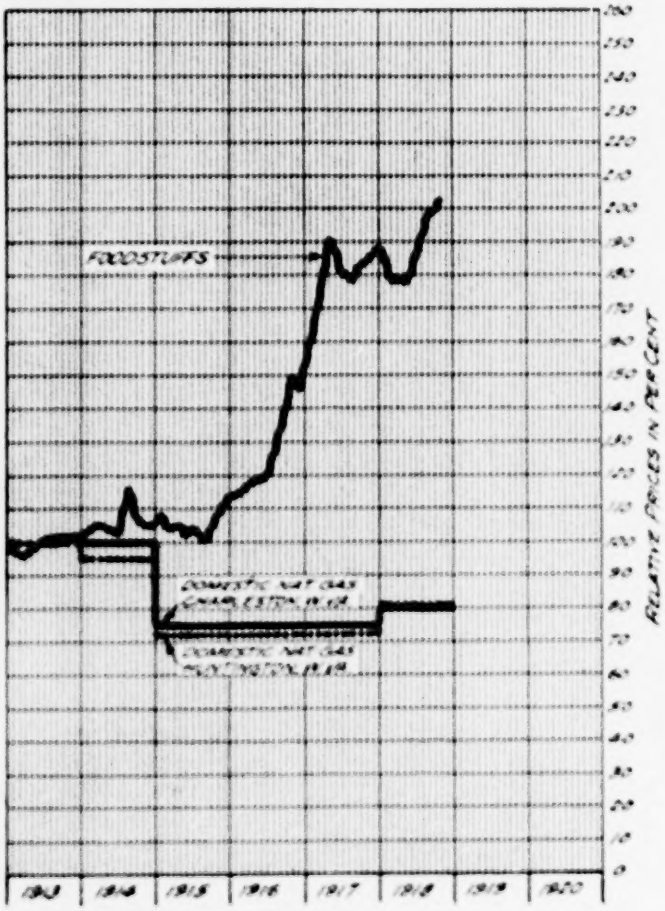


PLATE 34

RELATIVE PRICES
WHOLESALE CLOTHING IN THE UNITED STATES
AND
DOMESTIC NATURAL GAS RATES
OF
THE UNITED FUEL GAS COMPANY
AT CHARLESTON AND HUNTINGTON, W. VA.

The commodity prices are taken from page 102, Vol. 8, January, 1919, No. 1 Monthly Review of the United States Bureau of Labor Statistics.

The decrease in domestic natural gas rates in the 6 years from 1913 to 1918, was 20 per cent, as contrasted with an increase of 152 per cent in clothing.

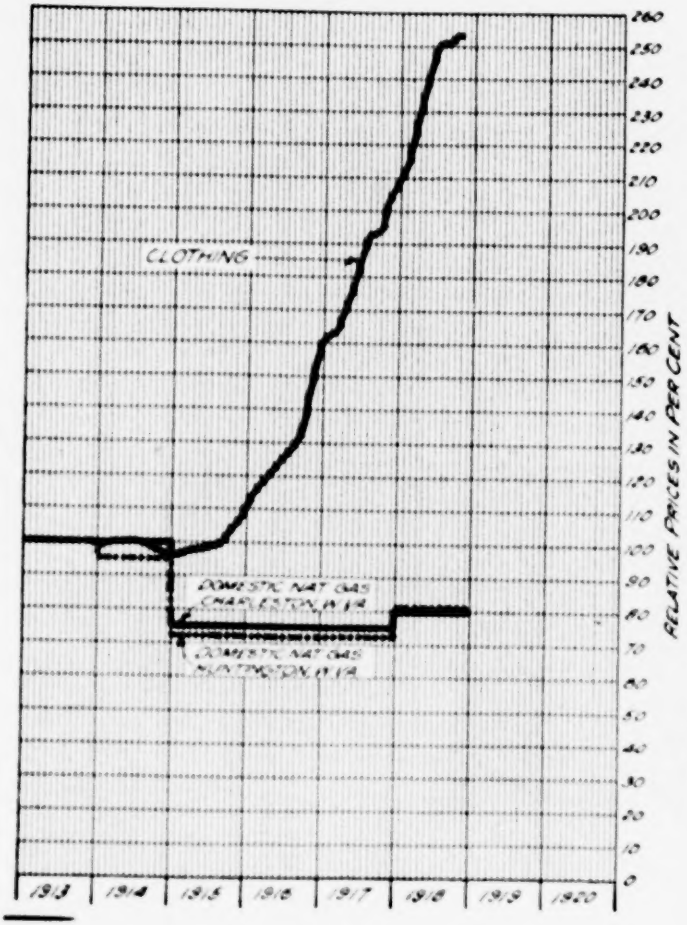
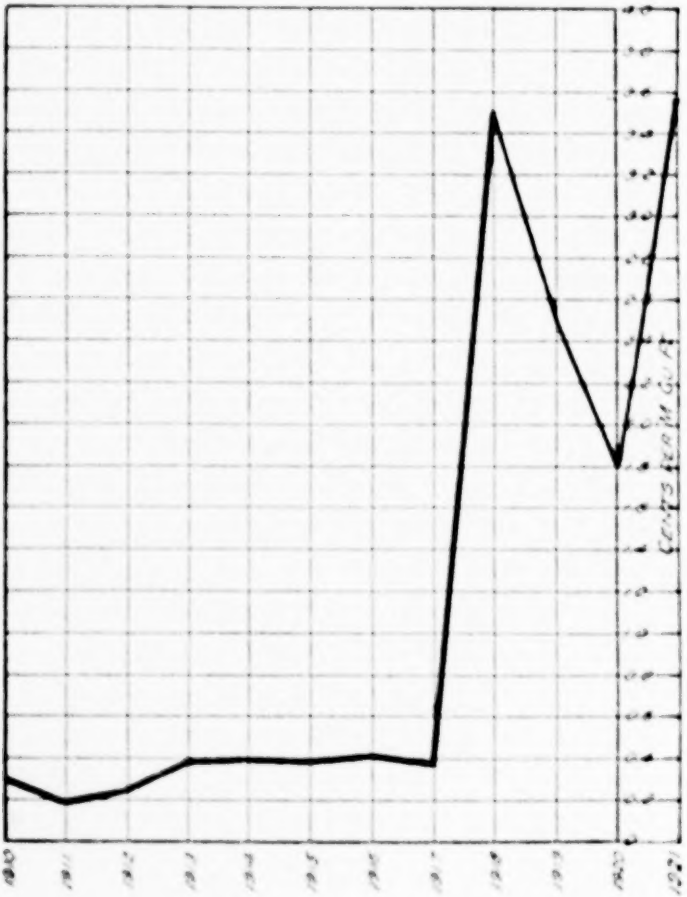


PLATE 35

INCREASING COST OF TAXES
IN
CENTS PER "M" CU. FT. OF GAS
OF
THE UNITED FUEL GAS COMPANY
IN
WEST VIRGINIA, KENTUCKY, AND OHIO

In 1910 the total taxes amounted to .28c per "M" cu. ft. and this increased to 3.5c by 1918.



BEFORE THE RAILROAD COMMISSION OF THE COMMONWEALTH OF KENTUCKY

THE CITY OF CATLETTSBURG, KENTUCKY,
A Municipal Corporation,
Plaintiff,

vs.

UNITED FUEL GAS COMPANY,
A Corporation,
Defendant.

DEPOSITIONS taken on behalf of the defendant at its office in the City of Charleston, West Virginia, on this 1st day of November, 1920, pursuant to agreement on behalf of the attorneys for both the plaintiff and the defendant, as well as for the intervening cities of Ashland and Louisa, Kentucky, fixing said time and place.

PRESENT:

MR. S. S. WILLIS,
City Attorney of Ashland, Kentucky;

MR. R. C. PRESTON,
City Attorney of Catlettsburg, Kentucky;

MESSRS. WILLIS and PRESTON,
For the City of Louisa and, by request, for the City Attorney of the City of Louisa, Kentucky;

MR. R. G. ALTIZER,
For the United Fuel Gas Company.

CHARLES V. PRICE,
Shorthand Reporter,
Notary Public
PRICE & KELLER,
Charleston, W. Va.

L. A. SEYFFERT,

introduced as a witness on behalf of the defendant, having been duly sworn, deposed as follows:

BY MR. ALTIZER:

Question—Mr. Seyffert, please state your place of residence and the connection which you now have with the defendant, United Fuel Gas Company, stating at the same time what your previous connection with that company has been and what your duties were.

Answer—My residence is Charleston, West Virginia. I am now the secretary and treasurer of the United Fuel Gas Company and have charge of the records and accounts of the company, and previous to being secretary and treasurer I was assistant secretary and treasurer from the time the company started actively in business in 1909.

Q.—How long have you been secretary and treasurer?

A.—Since 1915.

Q.—Have you in your custody the books of account?

A.—I have.

Q.—Accounts?

A.—Yes, sir.

Q.—Have you in your custody the reports of one S. S. Wyer, Dr. I. C. White and John Davidson, of valuations made by these men of the property of the defendant company?

A.—Yes, sir.

Q.—Mr. Seyffert, this is a proceeding instituted by the City of Catlettsburg, in which later the cities of Ashland and Louisa, Kentucky, intervened, seeking to compel a reduction in the rates charged by the defendant for natural gas service in the Kentucky cities mentioned, it being alleged in said proceeding that said rates are unreasonably high and also that they are discriminatory against the Kentucky cities named as compared with localities in West Virginia supplied with natural gas by the defendant. Do you know what the existing rates for such service are both in Kentucky and West Virginia?

A.—Yes, sir.

Q.—What are the present rates in West Virginia and near the Kentucky border, such as Huntington, Ceredo, Kenova and Fort Gay?

A.—The net rate at Huntington is 21 cents per 1000 feet. That at Kenova, Ceredo and Fort Gay is 23 cents per 1000 cubic feet net.

Q.—You mean by "net" that something additional is charged unless the bill is paid within a certain number of days?

A.—Yes, sir; the gross in each of those cases is two cents more than the net.

Q.—Two cents more per thousand?

A.—Per 1000 cubic feet, yes.

Q.—Will you state how those rates which you have mentioned in West Virginia localities came to be in effect and whether or not they were voluntarily fixed by the defendant company?

A.—They were not voluntarily fixed by the defendant company. The company applied to the Public Service Commission for rates considerably in excess of those which are being charged. After the hearing the Commission prescribed those rates, which have been in effect since that time.

Q.—I will ask you if there is now pending before the Public Service Commission of West Virginia any proceeding instituted by the defendant company seeking to obtain an increase in such rates.

A.—There is.

Q.—You may refer to this paper, which I will show to the other side—First, state what it is.

A.—This is the application——

Q.—(Interrupting) Well, is it the application, or a copy?

A.—This is a copy.

Q.—All right; just state it is a copy.

A.—This is a copy of the application of the United Fuel Gas Company for authority to change its rates, tolls and charges and to alter in some respects its classification of rates, and the case is No. 1251.

Q.—When was the application filed with the West Virginia Public Service Commission?

A.—This is dated the 29th day of June, 1921.

Q.—Has the case been heard and disposed of?

A.—There has been one hearing, but the case is not yet disposed of.

Q.—Has the testimony been completed on behalf of the applicant?

A.—Yes, the testimony has been completed on behalf of the applicant.

Q.—Are you sure of that, or has it been postponed?

A.—Well, the case has been postponed until November 18th.

Q.—Well, you don't know, then, whether the testimony on behalf of the applicant has been completed or not?

A.—Well, apparently not.

Q.—At any rate, it has not been submitted to the Commission for decision?

A.—It has not. I will say this, that we have not as yet been cross-examined—the two witnesses that the plaintiff has put in have not been cross-examined.

Q.—And cross-examination has been demanded?

A.—Yes, sir.

Q.—Will you refer to that application and state what rates for natural gas the defendant in this proceeding is seeking to put into effect at the localities near the Kentucky border to which you have just referred?

A.—The proposed rate at Fort Gay is 44 cents gross, less 4-cent discount; that at Kenova is the same for domestic purposes; that at Huntington is 47 cents less 5 cents.

Q.—Did you mention Ceredo?

A.—I was just looking for Ceredo. That at Ceredo is 44 less 4.

Q.—Did you mention Ceredo a moment ago in connection with the existing rate?

A.—I did.

Q.—What is the existing rate at Barboursville, and what is the proposed rate?

A.—The existing rate at Barboursville for domestic service is 22 cents gross, less 1 cent discount, and the proposed rate is 47 cents less 5 cents.

Q.—I wish you would state, Mr. Seyffert, if you know, whether or not the defendant company ever at any time professed or held out to the public in the cities of Ashland, Catlettsburg, Louisa, or any of them, or at any other location, that it was engaged in or offered to supply gas as a public service for any purpose other than what is known in the business as domestic service.

A.—No, sir; we never have held ourselves out as being a public—in the public service for anything except domestic business.

Q.—What is meant in the trade or business by the term "domestic service?"

A.—That includes the gas supplied to homes for cooking, heating and lighting, and for the ranges in hotels, and for the use in stores in stoves, but does not include factories or consumption under boilers or for manufacturing purposes of any kind.

Q.—Well, now has the company at any time in the past engaged in any other service of natural gas other than what we term domestic service, and if so under what circumstances and to what extent?

A.—Yes, they have engaged in supplying factories with gas, but only under special contracts with each of the consumers supplied, with the understanding that they should be shut off in case of necessity for—in case of necessity to supply the domestic consumption. In past years that business amounted to quite a large volume, but in the last year it has fallen off to a very marked extent.

Q.—In actual operation has preference been given at all times to the domestic service, or what the company professes as its public service?

A.—Yes, the domestic has always had preferred service.

Q.—You have at my request made some investigation of the books of the company to ascertain certain comparative items of cost, have you not?

A.—I have.

Q.—Speaking generally, and before going into details, what is the tendency at this time and during the past several years in operating expense as compared with previous years?

A.—The general trend has been decidedly upward in expense.

Q.—To what do you ascribe that?

A.—To the increased costs of labor, materials and all kinds of supplies entering into the conduct of the business.

Q.—Well, of course, there has been that sort of an increase in all lines of business. That is to say, there was that sort of increase during the war period and for some time afterward, with a tendency recently in the other direction, but has the experience of this company recently and in the past year or two differed in any respect from that of business generally, and if so how and why?

A.—Well, our labor and general expenses have been higher in the year 1921 than they were, for instance, in the year 1918, and a large item of our expense is in compressing the gas to carry it the distance necessary, which in former years was not necessary, and this expense has been increasing right along each year, and it is independent of the increase in the unit cost of labor or materials which most all companies have had to bear.

Q.—Have you made any investigation of the books to ascertain the average quantity of gas obtainable from new wells as compared with wells drilled in earlier years?

A.—Yes, sir, I have.

Q.—State what that comparison is.

A.—In the year 1903 the average initial open-flow capacity of the wells drilled in that year was 7,422,000 cubic feet.

Q.—Daily?

A.—Daily. And the average daily initial open-flow capacity of the wells drilled in the first seven months of 1921 was 1,196,581 cubic feet.

Q.—Mr. Seyffert, your books are kept to show the amount of expense under certain divisions, are they not?

I mean, you keep a separate account of what you term production expense, transportation expense and distribution expense?

A.—Yes, sir.

Q.—What constitutes production expense, chiefly?

A.—The time and expense of the men taking care of the wells and taking care of the lines, and the rentals.

Q.—What lines do you mean?

A.—The field lines—gathering lines; cleaning out the wells, well rentals, well royalties—land rentals and well rentals; and the maintenance of these lines and the wells.

Q.—What constitutes transportation expense?

A.—Transportation expense consists of the walking of the main lines, the operating of the gates and the maintenance of the lines. Also, the largest part is due to the operating of the compression stations along the main lines in order to take the gas to market, and the maintenance of those stations also is included in the transmission expense.

Q.—What constitutes distribution expense?

A.—The distribution expense consists of keeping up the meters, lines and regulators in the cities, the actual distribution of the gas, getting it from the main lines to the consumers, watching the pressures to see that the town is constantly supplied with sufficient gas, the reading of meters, rendering the bills, collection of accounts and the maintenance of those lines and materials in the city.

Q.—Have you prepared a statement from the books showing the percentage of increase in these several kinds of expense in the year 1919 over the year 1918 and the year 1920 over the year 1919, and in the first seven months of 1921 over the same seven months in 1920?

A.—Yes, sir.

Q.—Have you got a copy of it?

A.—No, I haven't a copy of it except this.

(Mr. Altizer hands witness paper.)

Q.—I wish you would state what those percentages of increase are, or, if there be any case in which there is a decrease, state that also.

A.—The percentage of increase of 1919 over 1918 increases—the percentage of increases of 1919 over 1918 are as follows:

Production expense	16.7%
Transmission expense	27.1%
Distribution expense	14.2%
Commercial expense	18.5%
General expense	14.7%

There is a decrease in gas purchases of 2.8 per cent. In the year 1920 over 1919 the increases are as follows:

Production expense	11.4%
Transmission expense	62.5%
Distribution expense	34.3%
Commercial expense	15.3%
General expense	47.5%

And there is a decrease in gas purchased in that period of 2.3 per cent.

The increases in the seven months of 1921 over the seven months period of 1920 are as follows:

Gas purchased	8.7%
Production expense	5.7%
Transmission expense	2.7%
Distribution expense	5.8%
Commercial expense	5.4%
General expense	26.7%

Q.—Your statement included, in addition to the items of expense to which I referred, gas purchased and commercial expense and general expense?

A.—Yes, sir.

Q.—Of what do those items consist?

A.—The item of gas purchased is the gas we purchase from other producers; the commercial expense I explained under the head of distribution expense. It is the keeping

of the books, reading of the meters, rendering the bills and the collections.

Q.—Really a part of the distribution expense?

A.—Really a part of the distribution systems. The general expense includes the salaries of officers, the superintendents—the general superintendents—the general office expense here, the legal expenses, taxes of a general nature—property taxes—insurance, damages and things of that sort of a general character.

Q.—The figures which you have given do not include depreciation or depletion, nor income or profits taxes?

A.—They do not.

Q.—The only taxes included under the items "general expense" are ordinary taxes, such as property taxes—is that correct?

A.—Yes, sir.

Q.—I wish you would state what the increases during those periods were in the aggregate of those several items.

A.—The percentage increase of 1919 over 1918, the total increase in that year, was 13.7; the total increase of 1920 over 1919 was 24.5; and for the seven months period of 1921 over a like period of 1920, 9.6 per cent.

Q.—I will ask you to file, as a part of your deposition, a copy of the statement from which you have just testified, marking the same "Seyffert Exhibit No. 1."

A.—All right.

The statement referred to was filed, marked as requested, and is hereto appended.

Q.—Have you prepared a statement showing a comparison of the labor costs of the defendant company during the years 1913, 1918 and 1921?

A.—Yes, sir.

Q.—Does that statement include all of the principal classes of employees?

A.—Yes, sir.

Q.—I wish you would say, without reading the entire statement, what are the approximate percentages of increase in the various classes for the periods mentioned.

A.—The increases of the year 1921 over the year 1913 range from 65 per cent to 118 per cent, and the increases in 1921 over the year 1918 range from 8 per cent to 42 per cent, and there is one decrease in 1921 over 1918 of 12 per cent, that being tool dressers.

Q.—About how many employees are tool dressers? I mean approximately.

A.—Well, there is a comparatively small number.

Q.—Not enough to affect the general result of the payroll in any material degree, is it?

A.—No, sir.

Q.—I will ask you to file a copy of that statement, marked "Seyffert Exhibit No. 2."

A.—Yes, sir.

The statement was filed, marked as requested, and is hereto appended.

Q.—Mr. Seyffert, there has been filed in the record of this proceeding a report by one W. H. Weiss, who describes himself as an engineer of Kansas City, Missouri, in which he sets forth numerous tables and calculations relating to the business and the earnings and other matters of the defendant company. Have you examined that report?

A.—I have.

Q.—Did you ever see any previous report of the same engineer upon the same subject?

A.—Yes, sir.

Q.—You were present in Frankfort on the 7th day of October when what I would term his second report was filed with the Railroad Commission, were you not?

A.—I was.

Q.—How long previous to that did you see the former report by this gentleman—about how long?

A.—Several weeks.

Q.—Where did you see this previous report?

A.—In our office.

Q.—How did it come to be there?

A.—It was sent to us by him, as I recall it.

Q.—By Mr. Weiss?

A.—By Mr. Weiss.

Q.—Have you compared these two reports to ascertain in what respects, if any, they differ?

A.—I have.

Q.—How do they differ?

A.—The first report distributed the transmission investment on what he termed the sales-mileage basis, giving weight to the distance of various points as well as to the volume of sales at those places. Another difference was in the amount of working capital. In the first report he assigns 5 per cent of the investment as being necessary for working capital, and in the second report, for the year 1920, he assigns 2.2 per cent, and for the year 1921, 2 per cent as working capital. In allowing for depletion and depreciation in the former report he allows 6.4 per cent, I believe it is, as an average, and in the later report 5.66 per cent as depletion and depreciation.

Q.—Do you recall any other differences?

A.—In the first report he states that the credit to the gas company for the gas used in the manufacture of gasoline should be at the rate of 100 cubic feet of gas for each gallon of gasoline made, which he credits at the average price of the gas sold to all consumers; and in the second report he credits the gas earnings with one-half the net gasoline earnings. I believe those are the main differences.

Q.—Speaking of the last one first, you say in his first report he credited the gas company with 100 cubic feet of gas for each gallon of gasoline?

A.—Yes, sir.

Q.—What you mean is, do you not, that in his first report he treated the gasoline business as separate and distinct from the public service business of supplying

natural gas to the public, and really based his calculations upon a statement that the operating expenses of the utility business should be credited with the value of the gas used in the making of gasoline?

A.—Yes, sir.

Q.—Whereas in his second report he based his conclusions and calculations upon the theory that the gasoline business is not separate and distinct from the public service business, but that one-half of the net earnings from the gasoline business should go to lessen, to that extent, the operating expenses of the public service business? Is that correct?

A.—That is correct.

Q.—What is the net result of the change which he made in his second report from the first report in the basis of treating the gasoline business?

A.—By treating the gasoline business as he has in the second report would increase the net earnings from the gas business.

Q.—And therefore tend to show that the operating expenses of the public service business were less, and therefore the profits from that business were more?

A.—Yes, sir.

Q.—Near the end of the report filed with the Commission by Mr. Weiss he draws some deductions or conclusions as to the earnings of the defendant company from its sales of gas in Ashland, Catlettsburg, Louisa and other points and as to the decreased revenue which might be obtained from such service in said several localities still affording the defendant company certain specified rates of return upon its investment. Have you examined those tables from which these deductions are drawn?

A.—I have.

Q.—Have you anything to say as to the correctness of these conclusions or the premises upon which they are based? I am speaking now of what are termed tables C and D, pages 18 and 19, of the report which was actually filed.

A.—I would say those are all—the figures are based upon the investment figures which he obtained by eliminating the mileage factor on the transmission investment, and having allowed only 2 per cent working capital, having allowed only 5.66 per cent depreciation, and having credited to the gas business one-half the net gasoline earnings, and I would say to that extent they are incorrect.

Q.—Is it also true that this statement and the conclusions drawn therefrom do not take into account the actual value of the gas property of the defendant, but are based solely upon the cash investment therein?

A.—They are based only upon the cash investment, no consideration being given to the value.

Q.—Does the report in all of these respects which you have mentioned differ from the books of account of the company? Let's take them separately.

A.—You are asking all that in connection with the books of account?

Q.—Yes.

A.—Well, on our books of account we don't charge to any locality the gas on account of the distance, but in considering it for rate-making purposes it certainly must be taken into consideration, because it costs a great deal more to transport gas 75 miles than it would 25 miles.

Q.—And in Mr. Weiss's calculations he has assumed, and expressely stated, did he not, on the stand, that he gave no consideration to the distance which gas was transported?

A.—He gave absolutely no consideration to it.

Q.—And did you find, upon examination of his table to which I have referred and the conclusions therein stated that no consideration of the distance that the gas was transported went into the calculations?

A.—I found that no such consideration was given in his calculations at all.

Q.—Let's take the next item.

A.—In his first report he stated that 5 per cent working capital was the amount that should be allowed the company for that purpose.

Q.—Five per cent of what?

A.—Of the investment. In the second report he states 2 per cent. Now 5 per cent is nearer the correct amount, because of the large amount of material and merchandise we have to carry on hand to carry on our business, and the amount of capital we need to carry on the business until the money is collected for each month's business.

Q.—Approximately what investment in materials does the company have on hand and necessarily have on hand at all times?

A.—We have to carry between five and six hundred thousand dollars worth of materials at all times to carry on our business.

Q.—And what other necessity is there for working capital besides this?

A.—Our expenses are close to $400,000 a month, and it takes at least two month's expenses before sufficient collections are in to pay for it.

Q.—Well, what is your own idea of what would be a proper allowance for the conduct of a business of that sort as working capital, confining your answer only to the natural gas business in which the company is engaged, and excluding from consideration any working capital required for its activities in the producing of crude oil and of gasoline?

A.—I should say we should have approximately what he figured in the first report, or 5 per cent of the investment, which would figure out pretty closely, in several ways, as to the amount that would be needed.

Q.—In that sum you would have to include both your working capital proper and your materials it is necessary to have on hand?

A.—Yes, sir.

Q.—In connection with the allowance which Mr. Weiss made in his report and calculations for the annual depreciation and depletion which should be charged against the revenues for each year, please take his report and state the amount which he allows and state also what sum was

actually charged off by the company on its books for the same periods.

A.—For the seven months ending July 31, 1921, Mr. Weiss allows **$921,539.65 for depletion** and depreciation. I haven't got that for seven months, but I have got it for nine months.

Q.—I think you had better strike out that part of your answer and give the year 1920 first.

A.—Well, I haven't got those separated just as your question asked it.

Q.—Then you had better supply that answer in the morning after looking at your books.

A.—Well, I can do that, but in comparison with this figure—if you want me to answer that in comparison with this figure which he used for seven months, at the rate at which we charged off depreciation in the year 1920 we will charge off in 121 for the nine months ending September 30, $2,398,731.20.

Q.—Have you the figure for the same seven months to which his report refers?

A.—No, I have not. Didn't make a direct comparison of seven months.

Q.—You will furnish this in the morning; but for the present can you say whether or not the amount which Mr. Weiss allowed as a proper charge for this purpose was less than the amount actually charged off by the company for the year 1920?

A.—It was very much less for the year 1920 than the amount actually charged off. He allowed in the year 1920 $1,543,919, and we charged off in the year 1920 against the gas earnings $3,118,699.56.

Q.—In this connection, Mr. Seyffert, are you a member of any committee which has made a study of the proper methods of accounting in the natural gas business?

A.—Yes, I am a member of the committee on accounting of the Natural Gas Association of America.

Q.—Is the Natural Gas Association of America representative largely of the industry?

A.—Yes, sir, it takes in all the natural gas companies of the United States and some of Canada, I believe.

Q.—Well, have you in connection with other persons engaged in the accounting of companies conducting a natural gas business on a large scale, given any study to the proper amount of depreciation and depletion which should be charged off each year and the methods which should be used in ascertaining this amount?

A.—Yes, sir.

Q.—Did the amounts which were actually charged off in the year 1920 and previous years represent what, in your opinion, was a proper charge for such an item?

A.—Yes, sir, they did.

Q.—Does it correspond with the approved methods of accounting in use generally in the industry?

A.—Yes, sir.

Q.—What is there peculiar about the natural gas business with respect to its accounting system, if anything?

A.—The fact that natural gas is not being created necessitates that we charge off each year a proportionate part of the investment, according to what we consider will be the life of the fields, and that in addition to the field property being depleted upon that basis the physical property is also affected by what may be the life of the property as a whole, regardless of whether it is actually used up or not, especially as there is practically no salvage value after the gas has been exhausted from the field. The cost of reclaiming it would be more than the value of it.

Q.—By "physical property" other than the producing fields themselves you mean, I take it, pipe lines, compressor stations and that sort of property?

A.—Yes, sir.

Q.—Then the accounting differs in that respect from that of a railroad company or a manufacturing company or an electric light company, does it not?

A.—Quite materially, yes, sir.

Q.—Due, as I understand you, to the fact that it is a short-lived property?

A.—And a railroad company, under proper maintenance, is about as good one year as it is another, whereas

the gas is being used up all the time, and your asset is being actually used up in a gas company.

Q.—Well, in your opinion, does the amount actually charged off on the books of the company to represent depletion and depreciation in the year 1920 exceed the actual amount of such depreciation and depletion, considering the value of the property as shown upon the books of the company?

A.—I don't think it does; I think it is about right, and fair to the company, and conservative as well.

Q.—Was this entry on the books representing the amount charged off for depreciation and depletion for the year 1920 actually decided upon and made by the company before the institution of this proceeding and without reference to it?

A.—Yes, sir, it was authorized by the board of directors in the year 1920.

Q.—Coming now to the last matter as shown in the Weiss report which you have characterized as erroneous, I will ask you how the amount shown in his report as the investment of the company in gas property compares with the value of that property as shown upon the books of the company.

A.—Mr. Weiss shows the physical property as $27,925,444.28 as of July 31, 1921, before adding anything for working capital or going-concern value. The books of the company on September 30, 1921—no, at that same date—the books of the company on July 31, 1921, would show this amount to be $59,703,555.70.

Q.—As I understand it, the amount shown by Mr. Weiss is the actual cash investment in that class of property, is it not?

A.—It is the actual cash investment plus an overhead allowance of 10 per cent.

Q.—But without anything added for going value or for working capital?

A.—Yes, sir.

Q.—What accounts for that large difference between the investment as shown by Mr. Weiss as the book value of the property as shown on your books

A.—An appraisal of our property was made by Mr. S. S. Wyer, consulting engineer, of Columbus, Ohio, Dr. I. C. White, State Geologist of West Virginia, and Mr. John Davidson, an oil and gas man of Charleston. After those valuations were made by these gentlemen the board of directors authorized the entry of an additional amount as the correct value of our company.

Q.—Did these three men whom you mention as having made this appraisal have, at the time of said appraisal, any pecuniary interest in this company?

A.—No, sir.

Q.—It is also referred to in Mr. Weiss's report that in the year 1920 the capital stock of the company was increased from ten millions to thirty millions of dollars. Did that have any connection with the appraisal to which you have referred?

A.—Yes, sir. The addition of twenty million dollars was simply a capitalization of a part of the amount added to our capital account through the appraisal.

Q.—It did not represent any distribution of earnings to the stockholders?

A.—No, sir.

Q.—Have you in your possession the original report or reports of these three men to whom you have referred as making this appraisal?

A.—Yes, sir.

Q.—I will ask you to file, as part of your deposition, the report of Dr. I. C. White, which I believe was separate from the others, and will also ask you to read from it, after first submitting it to counsel for the opposition, the report of Mr. Wyer. I ask you to read only parts of the report of Mr. Wyer because of its great length.

o

Whereupon, at 5:07 o'clock p. m., the further taking of these depositions was adjourned till the following day, Wednesday, November 2, 1921, at 9:30 o'clock a. m.

Notary Public.

WEDNESDAY, NOVEMBER 2, 1921, 9:30 a. m.

Met pursuant to the foregoing adjournment.

Present: The same parties.

L. A. SEYFFERT

took the stand and resumed his deposition as follows:

BY MR. ALTIZER:

Q.—You were asked on yesterday to furnish a statement showing the amount of depreciation and depletion which would be charged off during the first seven months of 1921 provided the same rate of depreciation and depletion was used in 1921 as was used in 1920, and to compare the amount which would be so charged off for the first seven months of 1921 with the amount allowed for that purpose in the Weiss report which has been filed. Can you furnish that now?

A.—I can. The amount that would be so charged off of the United Fuel Gas Company books for the first seven months of 1921 would be $1,865,680.30.

Q.—And what was the amount allowed in the Weiss report?

A.—The amount allowed in the Weiss report as of July 31, 1921, was $921,539.65.

Q.—Are we correct in understanding that the figures which you have given for depreciation and depletion in the year 1920 and for the seven months of 1921, both in your estimate and in the Weiss report, relate only to the natural gas business and property of the company, exclusive of its oil and gasoline business?

A.—Yes, you are right.

Q.—Now, at the time we adjourned yesterday I asked you to read into the record from the valuation report of Samuel S. Wyer, giving only the final conclusions of that

report as to value, omitting the details because of the length of the document. I now ask you to take this report and read therefrom the letter of transmissal on the first page and the summary of valuation on the second page, first stating as of what date the valuation was made.

A.—This is the valuation of the natural gas property of the United Fuel Gas Company as of January 1st, 1919.

(Reading) May 15, 1919.

United Fuel Gas Company,
Charleston, West Virginia.

Gentlemen:

After making a careful and detailed investigation of your natural gas property in West Virginia, Kentucky and Ohio, as listed herein, it is my judgment that a conservative present fair value of this property, as of January 1, 1919, is $52,325,924. The quantities, to which the various unit prices were applied, were obtained direct from your office records.

Since the primary object has been to secure the present fair value of the property, all abnormal war-time prices were excluded. The unit prices used on material and labor are an average of the prices prevailing for approximately ten years prior to September 1, 1915.

The Company has been considered as one operating entity. The valuation has been made without any knowledge of book values or security issues. No costs for cutting through pavements in laying mains, are included herein.

The General Valuation Summary is shown on page 2. Maps showing the property are shown on Plates 1 to 10 and a general discussion of the basis of the various unit prices used is given in Part 1.

Respectfully submitted,

SAMUEL S. WYER

SUMMARY OF VALUATION
OF
NATURAL GAS PROPERTY
AS OF
JANUARY 1, 1919

1.	Natural Gas Leases:		
	Operated: 56,874 acres @ $300	$17,062,200	
	Reserve: 127,983 acres @ $100	12,798,300	
2.	Wells	4,879,400	
3.	Well drips	170,976	
4.	Well lines	413,048	
5.	Field lines	1,444,653	
6.	Field measuring stations	59,151	
7.	Compressing stations	1,490,675	
8.	Field headquarters	199,500	
9.	Main lines	5,933,703	
10.	Main line measuring stations	34,042	
11.	Main line headquarters	113,000	
12.	Distributing plants	1,916,743	
13.	General headquarters	849,291	
14.	Incomplete construction work	204,340	
		$47,569,022	
15.	Present value of plant		$47,569,022
16.	Going value, 10% of plant value		4,756,902
17.	Present value natural gas property		$52,325,924
18.	Working capital		800,000
19.	**Value for rate making**		$53,125,924

Sec. 20. WAR PRICES EXCLUDED.

The basis for the pipe and other material prices was obtained by studying the variation in net quotations for about 10 years prior to September 1, 1915. The reason for selecting this date was that since that time not only pipe prices, but all other prices have increased an abnormal amount. None of the unit prices in this valuation contemplate material or labor at the abnormally high prices prevailing generally since September, 1915, and especially at the present time.

Sec. 22. UNIT PRICES REPRESENT PRESENT FAIR VALUE OF PLANT PARTS.

The unit prices used herein are the fair value of the respective parts of the plant to which they are applied. Since these unit prices are the present fair values, they include the overhead charges—for promotion, organization, legal, engineering, superintendence, contingencies, interest, lease rentals, and taxes during construction—which are just as much an integral part of the plant as any of the so-called physical parts, and these unit prices also consider the depreciation of the plant as a whole and the depletion of the mineral supply.

The going value of the property as a whole, which is in addition to the plant value, is, however, given separately, as discussed in the next section.

The going value of the property as a whole is that element of value in addition to the sum of the present fair values of the sum of the component parts of the plant, which results from the fact that the plant is in successful operation and has an established business. That there is an element of value in an assembled and established plant over one not established, ought to be self-evident. This element of enhanced value is a property right which is herein considered in determining the value of the propetry as a whole.

The United Fuel Gas Company's 43 gas purchase contracts, under which it secures, from other producers, under very advantageous terms to itself, nearly one-fourth of the total amount of gas that it sells, alone are a very important element of the going value of this property.

The going value of the natural gas property as a whole is taken at 10% of the plant value, as shown on page 2.

MR. ALTIZER—Counsel for the defendant here states that it will, upon request of the complainants or upon the direction of the Commission, furnish a complete copy of said Wyer valuation and file the same as a part of the record herein.

Q.—I now hand you a pamphlet entitled "Natural gas rate situation of the United Fuel Gas Company in West Virginia, Kentucky and Ohio" and ask you by whom it was prepared and from what source the information embodied in the report was obtained.

A.—This report was compiled by Samuel S. Wyer, a consulting engineer of Columbus, Ohio.

Q.—Give the date there, if you can, or about the date.

A.—April, 1919. It was compiled from data which he obtained from the office of the United Fuel Gas Company.

Q.—Did he obtain it from you, or—

A.—He obtained it from my office, yes, sir.

Q.—In so far as that book purports to give statistics of the business of the United Fuel Gas Company, is it taken from the books in your possession and under your control?

A.—Yes, sir. There are a few plates in here that are not directly applicable to the United Fuel Gas Company which he got from other sources, but—

Q.—My question was whether or not, in so far as the book purports to give statistics of the business of the United Fuel Gas Company, did the figures come from your office?

A.—Yes, sir.

Q.—And are they correct?

A.—They are.

Q.—That report, you say, was made in 1919?

A.—Yes, sir.

Q.—And it shows, among other things, the decline of typical wells in various fields in rock pressure and other information to or near the date that the report was made?

A.—Yes, sir.

Q.—What has been done with the report, and particularly the copy you have in your hand, since it was completed by Mr. Wyer?

A.—We have added information to the report in order to bring it down as nearly to the present date as we could. Most of the information is to the end of the year 1920, and some of it extends on into the middle of the year 1921.

Plate 26, for instance, on page 41, shows the increase in horsepower capacity of compressor stations, showing that in the year 1913 we had about 3000 horsepower and in the year 1921, 32,000 horsepower.

Q.—Was this additional information which has been supplied in the report of events transpiring since the original report was made furnished from the records in your office

A.—Yes, sir.

Q.—And is it correct?

A.—It is.

Q.—What are the chief things shown in that report, Mr. Seyffert, in addition to the statement you have just made as to compressor stations

A.—It shows, on plates 3 and 4, the decline in the natural gas sold. On plate No. 11 it shows decline in number of acres of natural gas land reserved for each producing natural gas well. Plates No. 14 to 25, inclusive, show the decline in different wells in different fields of the company—decline of rock pressure in different wells in different fields of the company. Plate No. 27 shows the decline in average open-flow capacity of new natural gas wells. Plate No. 28 shows the increase in the number of gas wells producing and the decrease in production per well. Plate No. 29 shows the increasing cost of producing natural gas wells. Plate No. 30 shows the increasing length of transmission lines and production lines; and plate No. 35 shows the increase in taxes.

—o—

MR. ALTIZER—We now offer in evidence the report of April, 1919, as brought down to date, to which the witness has just referred, and ask that it be marked "Seyffert Exhibit No. 3."

The same was filed, marked as requested, and is hereto appended.

Q.—You were asked yesterday about a valuation report of Dr. I. C. White. I will ask you now to file that as a part of your deposition marked "Seyffert Exhibit No. 4.

The same was filed, marked as requested, and is hereto appended.

Q.—Now, Mr. Seyffert, on yesterday you referred to this valuation as having been made by three men, I. C. White, S. S. Wyer and John Davidson?

A.—Yes, sir.

Q.—Was any separate written report made by John Davidson?

A.—No, sir.

Q.—Do you know whether or not he concurred in the report of either of the others?

A.—Yes, sir, I know that he did before the Public Commission of West Virginia.

Q.—Referring again to the tables marked Table B, Table C, Table D and Table D (a) of the Weiss report which has been filed, and which was referred to yesterday, I want to ask you if you have made any calculations as to the rates of return on the property of the defendant company in the Cities of Ashland, Catlettsburg and Louisa in the State of Kentucky to be compared with the tables in said Weiss report, after changing the bases of the calculation in the respects which you mentioned yesterday; that is to say, after first assuming that there would be no future sales of consequence of gas for industrial purposes; second, that consideration be given to the distance which gas is transported, so that, unlike the Weiss report, the cost of transportation will be considered in determining the proper return in the Cities of Ashland, Catlettsburg and Louisa; third, by assuming that a fair and proper allowance for working capital is 5 per cent of the investment in the gas properties instead of 2 per cent as used in the Weiss report, and in all other respects using the same bases as used by Mr. Weiss, including his treatment of the gasoline earnings and using the same amount of depreciation and depletion which was allowed by Mr. Weiss.

A.—Yes, I have made such a report.

Q.—Such a calculation?

A.—Such a calculation, but my calculation is for the nine months of the year 1921.

Q.—Well, on the bases stated in the last question, what has been the rate of return of the defendant company in the three Kentucky cities mentioned during the first nine months of 1921?

A.—The rate of return in the City of Ashland was 8.25 per cent, in the City of Catlettsburg 8.26 per cent, in the City of Louisa 9.65 per cent.

Q.—Now, for fear that my question may not have been entirely clear, I will ask you to state again exactly in what respects the bases of your calculation differ from those of Mr. Weiss.

A.—It differs first in that I have used the sales-mileage basis, or, in other words, taken into consideration the mileage factor on the transmission investment, whereas Mr. Weiss has ignored the distance factor entirely. I have used a working capital of 5 per cent, which Mr. Weiss used in his first report, instead of the 2 per cent which he used in the second report.

Q.—Right there let me ask you, is that 5 per cent in addition to the stock of materials on hand or does it include the investment in materials and supplies?

A.—The 5 per cent includes the material and supplies. The other difference is in that I have excluded the industrial—the revenue from industrial gas, which is rapidly declining—the sale of which is very rapidly declining in the year 1921. Otherwise the bases are the same as those used in Mr. Weiss's last report.

Q.—I will ask you now if you have made still another calculation upon the same bases as those of the calculation to which you have just referred with the exceptions that instead of ascertaining the rate of return upon the actual investment of the company you have used the book value of its natural gas property as determined by the appraisal to which you have referred and have charged against the earnings depreciation and depletion for the

first nine months of 1921 at the same rate at which such charges were made for the year 1920.

A.—I have made such calculations.

Q.—And was this latter calculation in respects not mentioned otherwise upon the same bases as those used by Mr. Weiss?

A.—They were.

Q.—What, then, was the rate of return for the first nine months of the year 1921 upon the book value or appraised value of the defendant company's natural gas property—excluding its gasoline and oil property—after allowing for depreciation and depletion at the same rate actually charged off for the year 1920, using the sales-mileage basis for transportation expense, using 5 per cent of the investment in gas property to cover material and supplies on hand as well as working capital, assuming that there would be no receipts from industrial gas, and treating the gasoline earnings in the same way in which they are treated in the last Weiss report—that is, by taking one-half the earnings from gasoline and treating it as a credit upon the operating expenses of the gas utility?

A.—The annual rate of return under those conditions in the City of Ashland would be 2.66 per cent, in the City of Catlettsburg 2.48 per cent, and in the city of Louisa 3.58 per cent. These returns are all annual returns, although based upon earnings for nine months.

Q.—You mean the percentages you give are percentages of annual returns?

A.—Yes, sir.

(Cross-examination deferred.)

H. A. WALLACE

introduced as a witness on behalf of the defendant, having been first duly sworn, deposed as follows:

BY MR. ALTIZER:

Q.—Please state your place of residence and your present occupation, Mr. Wallace.

A.—Charleston, West Virginia; vice-president and general manager of the United Fuel Gas Company.

Q.—Inasmuch as the Commission won't have the benefit of seeing your white hair, may I ask your age, or approximate age?

A.—47.

Q.—How long have you been engaged in the natural gas business?

A.—In the oil and gas business over 30 years.

Q.—Well, how long would you say in the gas business itself?

A.—Oh, about 22 years, but prior to that time the gas and oil business intermingled.

Q.—Combined?

A.—Yes.

Q.—In what capacities have you been engaged in the business and to what extent are you familiar with its various phases?

A.—Well, I have worked as—practically in most all classes of work, such as roustabout, pumper, foreman, superintendent, division superintendent, general superintendent, general manager and vice-president.

Q.—How long have you been connected with the defendant United Fuel Gas Company?

A.—I came with the United Fuel Gas Company in the year 1912.

Q.—In what capacity?

A.—As a general superintendent.

Q.—Since that time have you been familiar with its operations and its property?

A.—I have.

Q.—To what extent?

A.—As supervising the operations in general and managing the company.

Q.—Are you familiar with any other natural gas property in the United States or elsewhere?

A.—Yes, numerous gas companies, with some of whom I have been employed, and others I have examined their

properties, placed valuation on their acreage, and done different classes of work for them.

Q.—Are you familiar with the property and business of any other natural gas company operating in West Virginia?

A.—I am.

Q.—Do you know the conditions generally of the natural gas business in the state of West Virginia?

A.—I do.

Q.—You may state with what other company you were at any time connected in the State of West Virginia.

A.—The Hope Natural Gas Company prior to my coming here.

Q.—In what part of the State of West Virginia do they operate

A.—The northern part.

Q.—Is it a large company, or small?

A.—The largest company, I believe, in the state.

Q.—Do you know what rates are being charged for natural gas at this time and what rates were in the recent past so charges in the various parts of West Virginia by companies other than the present defendant, and also the other States of the United States where natural gas is furnished?

A.—I do.

Q.—Do you know, particularly in the State of West Virginia, how the conditions under which such service is furnished by other companies compare with the conditions under which the same is furnished by the defendant United Fuel Gas Company in Ashland, Catlettsburg and Louisa and other places, taking into consideration the character of the territory of such other companies as compared with the territory of this defendant, and taking into consideration the distance which the gas is being transported as compared with the distance which gas is transported by this defendant to supply Catlettsburg, Ashland and Louisa?

A.—Practically, in most cases, I know that.

Q.—I wish you would state what are at this time at least some of the representative rates being charged for

natural gas by other companies in the State of West Virginia and how, in each case, so far as you are able to do so, the conditions under which such service is furnished compare with the conditions under which this defendant supplies gas to Ashland, Catlettsburg and Louisa.

A.—The Bristol Oil and Gas Company, of Salem, West Virginia, which secures its gas very close to the town of Salem, has a domestic rate of 40 cents per 1000 cubic feet, less 2.

Q.—Less what?

A.—Less 2 cents per thousand if paid on or before the 15th of the month.

Q.—In what county is Salem?

(No answer.)

Q.—Well, is it in a natural gas producing county?

A.—Yes, a natural gas producing county, and the wells lie very close to the town.

The Clarksburg Light and Heat Company, of Clarksburg, West Virginia, has a domestic rate of 30 cents per 1000 cubic feet, less 2 cents if paid on or before the 10th day of the month. The wells of the Clarksburg Light and Heat Company are practically drilled in the city limits—in fact, are drilled in the city limits, some of them, to my own knowledge.

Janelew, Butchersville, Evansville, Lighthurn and vicinity, 38 cents net per 1000 cubic feet.

Q.—What company is that?

A.—The West Virginia Central Gas Company. These towns are all located practically in the gas field.

Buckhannon, Berlin, Hodgesville and vicinity, 38 cents net. Most of these places are very close to the supply of gas.

Q.—Is that the same company?

A.—The same company. Philippi, Volga, Hall, Belington, Junior, Dartmoor and vicinity, 42 cents per 1000 cubic feet net. Some of these places are very close. None of them as I recollect, are anything like the distance at which we supply gas to the Kentucky towns.

Elkins, Beverly, Mill Creek, Huttonsville, Parsons, Hamilton, Hendricks, Montrose, Moore and vicinity, 44 cents per 1000 cubic feet net. I believe that all of these towns are much closer to the gas than the Kentucky towns—that is, from the wells at which we supply the gas to Kentucky. These are all towns supplied by the West Virginia Central Gas Company.

The Northern Natural Gas Company supply Terra Alta, Corinth and vicinities at 50 cents per 1000 cubic feet net. I am not really familiar with just how far they pipe their gas, but I am of the opinion that it is not nearly the distance that we are supplying it to Ashland.

The West Virginia and Maryland Gas Company supply Davis, Thomas, Douglas, Williams, Bayard, Dobbins, Gormania, Henry and vicinity, at which places they receive 46 cents per 1000 cubic feet net. They also supply Rowlesburg, Manheim, Elk Garden, Kingwood, Tunnelton, Allbright, St. George, Black Fork district and vicinity, and receive 49 cents per 1000 cubic feet net.

Piedmont, Keyser and vicinity, 50 cents per 1000 cubic feet net. Ridgeley, 55 cents per 1000 cubic feet net. These are all supplied by the Northern Natural Gas Company.

The West Virginia and Maryland Gas Company receive for the first 10,000 cubic feet of gas a rate of 55 cents for the first 10,000 cubic feet—

Q.—In a month?

A.—Yes, provided for gas furnished from April 1st to October 31. For the second 10,000 cubic feet 4 cents per 1000 cubic feet is to be added to the base or summer rate. For all over 20,000 cubic feet 8 cents per 1000 cubic feet shall be added to the base of the summer rate. All the foregoing rates are subject to a discount of 2 cents per 1000 cubic feet if paid on or before the 10th day of the month.

Q.—You mean that discount is all of the West Virginia and Maryland territory which you have last mentioned?

A.—Yes, I stated that net. It should be a discount of 2 cents. A minimum rate of 50 cents per month whether the quantity of gas used equals that sum or not.

The Lumberport Gas Company, of Lumberport, West Virginia, which secures its gas practically in the town of Lumberport and immediate vicinity, receives 37 cents per 1000 cubic feet, less 2 cents if paid on or before the 15th of the month, with a minimum meter charge of 50 cents.

The Monongalia Power and Railway Company, at Fairmont, West Virginia, the domestic class 1 is 39 cents per 1000 cubic feet, less 2 cents if paid on or before the 15th.

Q.—Where does the gas supply of Fairmont come from?

A.—In the vicinity of Fairmont, very close to the city.

The Natural Gas Company of West Virginia supplies Greater Wheeling, Benwood, Tridelphia, National Pike to West Alexander, country district in Ohio and Marshall counties, West Virginia, for which they receive 40 cents per 1000 cubic feet, less 2 cents if paid on or before the 15th of the month, with a readiness-to-serve charge flat minimum rate of 90 cents per month.

Q.—Where does the gas supply of that company come from?

A.—That gas is all secured at a much shorter distance from the places mentioned than the gas——

Q.—As a matter of fact, isn't it brought in from the adjoining Pennsylvania—Greene county, Pennsylvania?

A.—Yes, sir.

Q.—Which adjoins——

A.—Green county, and I suppose some of it comes from West Virginia.

Q.—Greene county adjoins Ohio county, West Virginia, in which Wheeling is located?

A.—Yes, it does. The Point Pleasant Natural Gas Company, at Point Pleasant, West Virginia, secures a rate of 45 cents per 1000 cubic feet, less 5 cents per 1000 cubic feet if paid on or before the 10th day of the month, with a minimum charge of 80 cents per month for each consumer, whether the amount of gas consumed amounts to that sum or not.

Q.—That gas, I believe, is brought into Point Pleasant from Ohio?

A.—From Ohio.

The Pittsburgh & West Virginia Gas Company, of Pittsburgh, Pennsylvania, supply Grafton, Taylor county, class 1 rate, domestic, 40 cents per 1000 cubic feet, less 2 cents for prompt payment.

Q.—That is one of the larger gas companies, is it not?

A.—Yes, that is one of the three or four larger gas companies of the state.

Q.—Does it have any production in the vicinity of Grafton?

A.—Yes, very close to Grafton.

Q.—Does it buy any gas from the defendant, the United Fuel Gas Company?

A.—The United Fuel Gas Company's lines are connected with the Pittsburgh & West Virginia Gas Company's by a 20-inch line leading to Cedarville.

Q.—In Gilmer county?

A.—At which point we sell them considerable gas.

Q.—Cedarville is in Gilmer county, West Virginia?

A.—Gilmer county, West Virginia, yes.

The Shinnston Gas Company, of Shinnston, West Virginia, secures a rate of 37 cents per 1000 cubic feet less 2 cents if paid on or before the 15th day of the month, with a minimum meter charge of 50 cents. This town is located right in the gas fields. I suppose there are wells drilled practically in the city limits.

The Raccoon Gas Company, of Salem, West Virginia, secures a domestic—is paid a domestic rate of 40 cents per 1000 cubic feet, less 2 cents if paid on or before the 10th day of the month. This gas is also secured very close to the city of Salem.

The West Virginia Heat & Light Company, of Pennsboro, West Virginia, secure a rate of 40 cents per 1000 cubic feet, less 5 cents—I have that 5 per cent, but I believe it is 5 cents.

Q.—That is a mistake, I guess?

A.—Yes, —if paid on or before the 10th day of the month. This gas is also secured very handy to Pennsboro.

The Manufacturers' Light & Heat Company, of Pittsburgh, Pennsylvania, supplying gas to Chester, Congo, Fairview, Follansbee, Holliday's Cove, Newell, New Cumberland, Weirton, Wellsburg, Brooke county and Hancock county, West Virginia, has a domestic rate of 47 cents per 1000 cubic feet, less 2 cents per 1000 cubic feet if paid within the discount period and a minimum charge of 80 cents. This is one of the larger gas companies in the state of West Virginia, and practically all of its gas is secured at a much shorter distance than what we are furnishing it to Kentucky towns. In fact, the greater part of it is very close to the market. The same company supplies Benwood, Glendale, Glenova, Moundsville and McMechin, Weirwood, West Liberty, Marshall county, Clay, Union, Washington, Sand Hill and Webster districts in Ohio county, West Virginia. A rate of 45 cents per 1000 cubic feet, less 3 cents if paid within the discount period, and the minimum charge of 80 cents. These places are all located much closer to the gas fields than the Kentucky towns we are supplying. In fact, some of them are in the immediate vicinity of the gas wells.

Q.—All of the places to which you have so far referred are in the state of West Virginia, are they?

A.—They are.

Q.—And chiefly in the northern and central part of the state, are they not?

A.—They are, yes, sir.

Q.—What parts of West Virginia produce natural gas?

A.—You——?

Q.—I mean roughly. I don't expect you to list all the counties.

A.—Taking the northern part of the state, Wetzel county, Tyler county——

Q.—Harrison?

A.—Harrison county, Gilmer county.

Q.—Lewis?

A.—Lewis county.

Q.—Marion?

A.—Marion, Monongalia and other counties. In our territory, or the southern part of the state, we have Roane,

Kanawha, Clay and Jackson counties, are the principal counties in which gas is secured.

Q.—You have stated that you were formerly connected with the Hope Natural Gas Company and that it operated in the northern and central part of the state. How does the general character of the country in which gas is produced in the northern and central part of the state compare with that in which the United Fuel Gas Company operates? I mean, as to its mountainous character or any other circumstance which would have a bearing upon the cost of operation.

A.—In the upper part of the state, while there is considerable mountainous land, the roads are much better and the territory more accessible than that which is under lease by the United Fuel Gas Company and which we are operating.

Q.—Does that have any material bearing on the cost of operating

A.—It does.

Q.—Where is the gas output of the United Fuel Gas Company marketed chiefly In answering that question I should like for you to state in a general way not only the territory supplied by the United Fuel Gas Company directly through its own lines, but its pipe line connections with other companies and the ultimate market to which the gas goes through those connections.

A.—The larger part of our gas is sold to the Columbia Gas & Electric Company, the Ohio Fuel Supply Company, the Pittsburgh & West Virginia Gas Company, who supplies——

Q.—Better go back and give all of them.

A.—The Pittsburgh & West Virginia Gas Company, the Hope Natural Gas Company and the Central Kentucky Gas Company and Louisville Gas & Electric Company.

Q.—State briefly the principal territory supplied by each of those purchasers from the United Fuel Gas Company.

A.—The Columbia Gas & Electric Company supplies Cincinnati, Newport, Covington, Maysville, and the Ohio Fuel Supply Company supplies——

Q.—Ohio cities, isn't it.

A.—Yes, Ohio cities. I am not very familiar with the number of those cities.

Q.—Well, the Ohio Fuel Supply Company operates only in Ohio, doesn't it?

A.—Only in Ohio cities.

Q.—Does it supply Columbus, directly or indirectly?

A.—Yes, it supplies Columbus. The Pittsburgh & West Virginia Gas Company supplies the towns and cities in the northern part of the state, as well as the—the principal market in the city of Pittsburgh.

The Hope Natural Gas Company also supplies towns and cities in the northern part of the state. Their principal market is Cleveland, Ohio, and Pittsburgh, Pennsylvania.

We are connected with the two latter companies with a 20-inch main line at Cedarville—which extends to Cedarville, West Virginia, at which point we sell the gas—measure the gas and sell it to these two companies.

Q.—And these producing companies have lines extending from Cedarville to Pittsburgh and Cleveland?

A.—To Pittsburgh and Cleveland—large transportation lines.

The Central Kentucky Natural Gas Company supply gas—or the gas is sold and measured them at Inez, Kentucky. Part of the gas is supplied from wells in the state of Kentucky and part of it from wells located in West Virginia.

Q.—Where does it go? The market is the question. Where does the Central Kentucky sell it?

A.—At Frankfort and other central Kentucky cities.

Q.—Including Lexington?

A.—Including Lexington. Frankfort, Lexington and other central Kentucky towns.

Q.—Where does the Louisville Gas & Electric Company market its gas?

A.—At Louisville, Kentucky.

Q.—And you also sell to the Louisville company at this same point, Inez, in Martin county, Kentucky?

A.—Yes, sir.

Q.—You have mentioned some current rates which are being charged for natural gas in various places in the state of West Virginia. I will now ask you to state what is the present rate in representative localities outside of the state of West Virginia where the gas produced by the United Fuel Gas Company is ultimately marketed.

A.—At Pittsburgh, West Virginia——

Q.—Pittsburgh, West Virginia, you mean?

A.—Or Pittsburgh, Pennsylvania, the Manufacturers' Light & Heat Company and the People's Gas Company——

Q.—Right there, is the People's Gas Company a subsidiary or connected with the Hope Natural Gas Company?

A.—They are connected with the Hope Gas Company. The People's Gas Company purchase the larger part of their gas from the Hope Natural Gas Company, to whom we sell our gas. Have a rate at the present time of 45 cents per 1000 cubic feet net; and the Philadelphia Gas Company, in the city of Pittsburgh, Pennsylvania, secure a rate of 50 cents net.

Q.—Is the Philadelphia Company affiliated with the Pittsburgh & West Virginia Gas Company to which you have referred?

A.—It is practically the same company. I also have been informed that one of these companies are contemplating a rate of 75 cents per thousand cubic feet for gas during the summer months.

Q.—Do the three companies you have mentioned supply all of Pittsburgh, or are they at least the chief natural gas companies that supply Pittsburgh?

A.—They supply all of Pittsburgh, these three companies.

Q.—The rates that you have given are the Pittsburgh rates?

A.—The Pittsburgh rates.

The rate in Cleveland at the present time is 45 cents per 1000 cubic feet net for the first 10,000; 55 cents per 1000 net for the next 10,000, and 75 cents per 1000 net for all over 20,000 cubic feet, with a minimum monthly charge of $1.50.

Q.—This so much per thousand for the first 10,000 and so on relates to the consumption in a single month, does it?

A.—It does.

Q.—So that the rate is higher if the quantity used is greater?

A.—It is.

Q.—Do you know how and when that Cleveland rate was fixed?

A.—The rate was fixed on October 1st, 1921, by Judge Vickery.

Q.—Of what court?

A.—Of the Appelate Court.

Q.—At Cleveland?

A.—At Cleveland, Ohio. He stated in allowing this rate that the rate of 35 cents which was previously in effect "will not afford a fair return or such a return as investors are entitled to have. We think that the rate that will afford a fair return should be higher than this; and the ordinance passed by the city compelling the furnishing of gas at this rate is in a measure an unfair and unjust ordinance and in a measure confiscatory and therefore illegal. We think we have the power that a court of equity always did have and still has to interfere where there is a confiscatory rate sought to be imposed upon a utility. We think that this rate—the 35-cent rate—would be taking the property of the gas company without due process of law and without just compensation. Taking property at pleasure without just compensation is in violation of the Constitution of the United States."

Q.—You were giving the rates at places outside of West Virginia and digressed a little about Cleveland. Will you go on with your statement of other places outside of West Virginia?

A.—In Ashtabula, Ohio, the domestic rate is $1 per 1000 for the first 5000 cubic feet, $1.25 per 1000 for the second 5000 cubic feet, and $1.50 per thousand for all over 10,000 cubic feet used in any one month.

In Dayton, Ohio, 50 cents per 1000 for the first 5000, 55 cents per 1000 for the next 5000, and 60 cents per 1000 cubic feet for all over 10,000 used in any one month.

In Columbus, Ohio, 45 cents per 1000 for the first 10,000, 55 cents per 1000 for the next 10,000, and 65 cents for all over 20,000 cubic feet used in a month.

Frankfort, Kentucky, 52 cents per 1000 cubic feet; Topeka, Kansas, 80 cents per 1000 cubic feet.

Q.—The Kansas rate to which you have referred is in a territory to which no gas from West Virginia goes, is it not?

A.—It is.

Q.—But it is natural gas produced in that part of the country?

A.—It is.

Q.—All right.

A.—Dallas, Texas, 75 cents per 1000 cubic feet.

Q.—Is gas produced in the state of Texas?

A.—Yes, in very large quantities.

Los Angeles, California, and vicinity, 85 cents per 1000 cubic feet.

Q.—Is California a gas producing state?

A.—Large gas producing state.

Q.—Several of the rates which you have given are at so much per 1000 cubic feet for a limited quantity, with an increasing rate in excess over such minimum. Is that character of rate being used to any extent now in communities where gas is conserved?

A.—It is becoming a very popular method of handling the gas rates for the purpose of conserving the gas and discouraging manufacturing and industrial business, as well as any single consumer using unlimited gas in his residence.

Q.—Does that rate have a tendency to promote better service?

A.—It does.

Q.—Will you explain why?

A.—It has a tendency to have the larger consumers curtail their gas in cold weather on account of the excessive

price, and also discourages the manufacturing industry from taking and using gas for manufacturing purpose.

Q.—What would you say is the occasion of that kind of rate being adopted to the extent that it has been and is being adopted at this time?

A.—It is practically placed in effect, as I stated, to discourage the use of gas for manufacturing and industrial purposes.

Q.—You misunderstand me. I don't mean its purpose, but why was it necessary to do that?

A.—To have the gas more uniformly divided amongst the poorer class of consumers, or the smaller class of consumers, and the people who use an excessive amount of gas.

Q.—Well, formerly the gas companies sold a great percentage of their output, as a rule, to factories, did they not?

A.—They did.

Q.—And at this time that is being discontinued. Why?

A.—The——

Q.—What I am trying to get you to express an opinion about is whether or not the available supply is increasing or diminishing.

A.—Well, that rate is placed in effect to conserve the gas on account of the diminishing supply of gas, as practically all of the larger gas companies in the northern part of the state are extremely short of gas at this time, with very small likelihood, if any, of improving this situation.

Q.—In your opinion, assuming that none of the gas companies drawing their supply from West Virginia shall take on any new markets at new localities, but that the territory served shall remain only what it is today, will there be, from this time on, any considerable quantity of gas available for industrial use, provided satisfactory domestic service is given for any considerable time?

A.—In my opinion, the day of supplying gas for industrial purposes is practically over. In other words, we have discouraged industries from connecting onto our lines —in fact, refused to sell them gas at a much higher rate than we were securing at other points for domestic gas.

In the last year I have, I feel, turned down markets within twelve or fifteen miles of the city of Charleston to factories desiring to locate at Nitro and vicinity. These people have called at my office and were willing to pay 35 cents per thousand cubic feet of gas net, and I informed them that we were not—did not desire any more market on our lines and would not supply them. In some instances they desired to know if we would supply them gas in the summer months for manufacturing purposes. In most cases I told them we might supply them with a little bit—a small amount of gas, but did not care to take them onto our line; and we also have discouraged taking on even domestic consumers at 35 cents within a mile or two miles of the city of Charleston. In fact, I have applications lying on my table now where communities are willing to lay the lines and connect on with their own services and pay us 35 cents for gas providing we will connect them up. I believe in the latter instance they desired us to furnish at least part of the pipe, that they would do the ditching and furnish all the expenses connected with laying the lines, and entire communities agree to sign a petition to the Commission allowing us 35 cents net for gas.

Q.—And I understand your reason for discouraging new connections is the fact that the plant is already loaded as far as it can stand a load and give good service?

A.—That is my idea exactly. If we take on the market as we are being solicited to do we would never supply the gas for cities on down the line such as Portsmouth, Ohio, and Ashland, Kentucky, and other cities and towns located at the extreme ends of our line.

Q.—Is there any difference in the cost of furnishing service to factories and furnishing it to dwelling houses for what is termed domestic service?

A.—Yes, there is a considerable difference. The manufacturing—the gas used for manufacturing purposes is supplied through one meter and practically no expense to take care of.

Q.—Is there any difference in the expense and the investment required in order to give service due to the fact

that on the one hand the manufacturer uses a comparatively constant quantity, whereas the domestic consumer fluctuates with the temperature?

A.—The manufacturing consumer is by far the most profitable consumer. They use gas constantly through the winter months and the summer months, and in fact—that is, when we can supply the gas in the winter months—but we constantly cut off the gas from these manufacturing industries during the winter months and they have been our source of revenue during the summer months. They are very profitable consumers in most instances.

Q.—How does the revenue from domestic consumers compare in the summer with the revenue from the same source in the winter?

A.—The gas supplied to manufacturing industries is considerably more profitable. In fact, there is no comparison to speak of, as in the summer months we have very little sale for domestic gas and depend almost entirely on manufacturing industries for our revenue; and the price charged in most places for gas for industrial purposes is practically the same as domestic gas.

Q.—My question was, How does the revenue from domestic consumers in the summer compare with the revenue from the same source in the winter?

A.—The domestic consumer in the summer months pays very little for gas. In fact, I would say that the gas bills in the summer months would run possibly one-fifth of what they would do in the winter months.

Q.—Has that fact had anything to do with the practice in the past of this defendant and other gas companies in the early days supplying large quantities to factories?

A.—It has. It was necessary for us to supply gas for manufacturing industries or we could not possibly have supplied gas to domestic consumers at the rates we were receiving. That practice holds good at the present time. If we discontinue our service to factories we will certainly have to have a considerable increase in domestic gas.

Q.—Well, which of the two services—that is, domestic and industrial—have the natural gas companies, including this defendant, regarded as their primary obligation?

A.—In all cases we take care of the domestic consumer in preference to the manufacturing industries. We constantly cut the supply of gas from manufacturing establishments to take care of—to see that the domestic consumer had an adequate supply in cold weather, although our largest source of revenue was from the industrial consumer or the manufacturing plant.

Q.—Well, has this cutting off of industries during periods when it was necessary to give adequate domestic service increased or diminished in the past several years?

A.—It has considerably increased. It is now absolutely necessary for us to cut off all manufacturing industries during extremely cool weather. It does not need to have very low temperatures to cause you to shut off all your industrial consumers or manufacturers. In fact, we have lost large, profitable markets on that account, such as Whittaker-Glessner, at Portsmouth, Ohio, a consumer that formerly used ten to twenty million feet of gas daily. In fact, that one consumer desired to know if we could supply them with 17,000,000 cubic feet of gas a day at, as I recollect, 35 cents a thousand. That was in the summer months. We refused to do it on account of depleting our supply so that we were fearful of conditions in the coming winter if we would use up that amount of gas in the summer months.

Q.—Then, as this cutting off of industrial consumers becomes more frequent, the service becomes more unsatisfactory to them, I take it?

A.—It does.

Q.—In your opinion, speaking now only of the defendant in this proceeding, will it be able to supply in any material quantity gas for industrial purposes in the future?

A.—It will not, providing we take care of the domestic consumers and endeavor to give them an adequate supply of gas in cold weather.

Q.—And that is due to what?

A.—To the depletion of the gas fields.

Q.—Well, if this industrial service is discontinued, what will be the result upon the revenues of the company from its gas business and the cost of domestic service?

A.—It will mean that our revenue will be cut down to a large extent if we discontinue supplying gas for industrial purposes, and the domestic rate must be increased to a considerable extent providing we are allowed to make a reasonable income.

Q.—As I understand, on account of the variability of the domestic consumption, you have an investment that will enable you to give service to dwelling houses at all times of the year?

A.—Yes, sir; we have a large—extremely large investment during practically seven months during the summer time from which we are deriving very little income or revenue from it.

Q.—But you have to have a plant that is capable of furnishing the entire needed supply on the coldest days, do you not?

A.—We do. We have to keep numerous wells shut in—drill up numerous wells and shut them in and keep them in readiness to serve consumers when the peak load comes on in cold weather. We also have to construct large compressor stations and keep them fully equipped with employees in the summer months. They are not needed, but we have to keep them on our pay-rolls and keep this class of labor ready to serve in cold weather.

Q.—Would there be any material reduction in the amount of the necessary investment or in the amount of the necessary operating expenses if all of your industrial business were discontinued and your activities confined entirely to supplying the domestic service?

A.—The expense would be practically the same. There is very little cost that is added by supplying gas to the industrial consumer.

Q.—I wish you would state something of what the present operating conditions are of the United Fuel Gas

Company, particularly as to what it has been in the way of exploring for new territory in the recent past and the result of such explorations, also the result which is obtained from the drilling of new wells in old and proven territory as compared with such result in former years, and also something of the difference in the cost of drilling wells at this time and previously, and something of the difference in transportation cost at this time as compared with previous years.

A.—In the last few years we have been—became very much worried over the rapid depletion of our fields, causing us to endeavor to supply—secure new acreage and a new supply of gas. I have a few figures here showing some of the rapid depletion in our principal field. This is supposedly one of our best gas producing sands, known as the Berea. On January 1, 1918, from this field we marketed 58,000,000 cubic feet of gas in one day, and could have marketed more provided we had line capacity to take care of it. In January, 1920, the gas had declined in volume to the extent that we could only supply 43,000,000 cubic feet from this field.

Q.—A day, you mean?

A.—That is 43,000,000 feet daily. In January, 1921, our largest delivery was 24,000,000 cubic feet. That was practically taking all the gas that we could secure out of the field by the aid of large compressors. And October the same year our gas supply had diminished to 19,000,000 cubic feet daily, and at that time we were using both high and low stage compressors to secure this amount of gas.

Q.—Was there any increase in the facilities in 1921 for getting the gas out of this field over those which were in 1918, the first date you gave?

A.—Yes, we had considerable—we had increased the size of our compressor stations there and practically gotten some part of the station down to two stages, what is known as high and low stage, taking the gas out of the pressure part of the field at around 5 pounds.

Q.—So this falling off is due to a failure of capacity rather than to a failure of market for the gas?

A.—Yes, it is due entirely to the diminishing supply of gas in the field.

We have picked up in the last year or two several thousand acres of land and endeavored to secure new territory, and have spent possibly $280,000 in securing this territory and testing it out by drilling wells, and up to the present time have secured no results—no satisfactory results to speak of, and we have some territory that I believe we might be able to drill wells averaging about 300,000 cubic feet of gas. This will necessitate buying a considerable amount of pipe, building additional compressor stations, and drilling wells in an expensive territory to secure a very small amount of gas. Originally, I believe, about the first 300,000,000 cubic feet of gas that we drilled up cost about $1000 per million.

Q.—You mean a million of daily capacity?

A.—Yes, a million cubic feet daily in the field. At the present time, conservatively speaking, it is running over $15,000 a million secured in the field; and we have been practically drilling our wells in proven territory and our best territory, in fact, to secure an average of a trifle better than a million cubic feet of gas on the average per well, not including the dry holes that we have drilled in the last year. In the early days the average—we had a yearly average of 7,000,000 cubic feet.

Q.—Per well?

A.—Per well. In other words, 7,000,000 cubic feet per well. At that time a well could be completed for a price of about $5,000. Today the average price is running close to $14,000 per well. Taking into consideration the difference between an average of 7,000,000 cubic feet of gas secured in a well with 1,000,000 cubic feet of gas secured at the present time, and also the additional expense in drilling the wells, shows that the gas is not only being depleted very rapidly, but becoming much more expensive.

Q.—How do the rock pressures in newly drilled wells compare with those in former years?

A.—In former years our rock pressures ranged from 500 pounds in what is known as our Injun sand fields to

over 1000 pounds in the Berea sand field. Today the average rock pressure of these wells is around from 225 to 230 pounds.

11:50 o'clock a. m., recess till 2 p. m.

Q.—You mention in particular the depletion of the Berea field, but you say nothing about the other fields.

A.—Well, the Injun—what is known as the Injun sand fields are being depleted very rapidly, but not quite as rapidly as the Berea sand fields; and the expense of the Injun is increasing very rapidly as to operating the field, for the reasons that the wells are getting smaller in volume and lighter in rock pressure, and there is a certain amount of water comes in with the gas, which necessitates installing pumping outfits in these wells, at a considerable expense in the installation, as well as later in the operation of them. At the present time one man can take care of 15 or 20 wells, and when we have those pumping outfits installed about five wells would be the average number that a man could take care of; and it was also necessitating our installing additional compressors to allow this gas to feed into the line to force it on the market, and at the present time we are practically on what is known as the high stage, with the exceptions of one or two plants. Later these compressor station plants will have to be at least double in capacity to allow you to low-stage the gas, or to pick it up at five or ten pounds and increase it up to 60 pounds, where the high-stage engines that are now installed will be able to operate. In other words, the installation that we have at the present time won't bring the pressure down to below 60 pounds; and with that pressure at the station the pressure back in the field is such that the wells will only feed a small proportion of their gas into the line.

Q.—This company's chief sources of supply are from the Injun and Berea sands, are they not?

A.—Yes, Injun and Berea sands.

Q.—What other sands are there which produce gas?

A.—Well, we have a small amount of salt sand gas, which is short-lived, and we also have a considerable amount

of gas in what is known as the Big Lime. That is not a sand formation.

Q.—Also short-lived?

A.—Also short-lived; and we have some gas in what is known as the Maxom sand. None of these latter sands—that is, the salt sand, the Lime or the Maxom—can be depended on as to life or regularity. That is, you are liable to drill numerous dry holes in securing one producing well.

Q.—The bulk of the gas producing territory of the United Fuel Company is in the state of West Virginia, is it not?

A.—Yes.

Q.—It also has some gas producing property in the state of Kentucky, hasn't it?

A.—Yes, we have a field in Kentucky producing gas.

Q.—In what county?

A.—In Martin county, Kentucky, principally.

Q.—What is the condition of that field?

A.—I feel that the Kentucky field is an unprofitable field to operate. In other words, I don't believe that there is any earning power in the Kentucky field. The wells are so extremely small in volume, low in rock pressure, necessitating a big expenditure in lines—large lines, big compressor stations, high operating cost; and we drill so many dry holes to secure one producing well.

Q.—Do you know approximately how many wells of the company there are in Kentucky and approximately the amount of gas you get from them daily?

A.—We have between 40 and 50 producing wells in Martin county, Kentucky, and I would estimate the amount of gas that can be secured from those wells by the aid of compressors at approximately 5,000,000 cubic feet.

Q.—Daily?

A.—Daily.

Q.—Where does the gas come from which you supply to the cities of Catlettsburg, Ashland and Louisa?

A.—That gas is supplied from our fields in Roane county, Clay county and Kanawha county, West Virginia.

Q.—What amount of compression does it undergo before reaching any one of the three Kentucky cities mentioned?

A.—That gas is all pumped or compressed three different times before reaching the Kentucky market; and all of the gas is compressed at some point by smaller stations located through the field, not including these three large compressor stations that compress the entire amount of it. In other words, all of the gas that comes into the line in the field at various points along the line is pumped into the line by the aid of compressors, as the wells, with the low rock pressure, will not feed gas into the line at the pressure that is necessary to carry at this end to make deliveries at the other end, or in the Kentucky towns.

Q.—Was some of this installation made recently, or in recent years?

A.—Yes, it has been rapidly increasing in recent years.

Q.—Was there ever a time that you could supply gas to these three Kentucky cities without the aid of compression at all?

A.—Yes, prior to the installation of the compressor stations the gas fed to these markets of its own natural pressure. We have a rock pressure of around 500 pounds. It carries a line pressure of around 300 or 325 pounds. The market was smaller and it did not necessitate compressor stations on account of having a large volume of gas and a high rock pressure.

Q.—About how long has it been since the entire present system of compression was installed?

A.—Well, we commenced installing the compressors in 1913, I believe, and have continued adding to them up until the present time, the year of 1921.

Q.—It has been a matter of constant growth?

A.—Yes, of constant growth, and the older the field gets the more expenditure you will have to make in machinery along this line.

Q.—Now, you say that the gas that is supplied to Catlettsburgh, Ashland and Louisa comes entirely from these

West Virginia fields. Are those cities connected by means of any pipe line with the Kentucky field?

A.—There is a connection, a ten-inch line about 50 miles in length leading from Kenova to our Kentucky fields.

Q.—Up the Big Sandy river?

A.—Up the Big Sandy river.

Q.—For what purpose was that line originally constructed?

A.—It was originally constructed to supply, I am informed, Huntington, Catlettsburgh, Ashland, and other towns in that vicinity.

Q.—Is there enough gas in this Kentucky field at the present time to supply those towns?

A.—No, there is not.

Q.—And what use is now made of this ten-inch pipe line up the Big Sandy river, and what use has been made of it during the past several years?

A.—At times this line is used to transport gas from this field in Roane and Kanawha and Clay to compressors at Kermit for delivery to Kentucky towns—Kentucky companies.

Q.—You mean at the Inez station that you spoke of this morning?

A.—Yes, sir. But not including Ashland, Catlettsburgh and those towns up this way.

Q.—Is it ever used as an emergency line to supply Catlettsburgh and Ashland?

A.—It has been, as in case of a landslide in our main transportation systems from here, we have discontinued the supply, or curtailed it, down the other way, and transported gas from that field up through Kenova and to the towns mentioned.

Q.—It is still useful, then, as an emergency line for this service?

A.—Yes, although it will not supply adequate gas for that market, but it helps out to a considerable extent in a case of that kind.

Q.—Mr. Weiss, in his examination, stated, and also bases the conclusions in his report upon the statement, that

there is no appreciable expense to the transportation of gas and that it can be delivered at one place at about the same price as any other place. Do you agree with that?

A.—No, I do not. It appears to me like a very ridiculous statement. You have a large investment in pipe lines, compressor stations to maintain. In fact, the gas that is now supplied to Ashland travels a distance of 80 or 90 miles. These lines have to be constantly patrolled, repaired, compressor stations necessitate a large expenditure in money in operating them. In fact, our payroll—I was looking at one of them—runs between forty and fifty thousand dollars monthly for operating the compressor stations; and it is necessary to constantly repair these lines, as I have previously stated, as well as patrol them; and we are troubled with large landslides, and, of course, the more line you have the more landslides you have to contend with; and when one of these lines is broken in two, which occurs frequently, you lose large volumes of gas. We spare no expense towards getting them repaired hurriedly. In fact, the transportation item is a considerable amount.

Q.—Is there any more loss from leakage on a long haul than a short one?

A.—Yes, of course, there is more or less leakage on any line.

Q.—That is unavoidable?

A.—That is unavoidable; and while we endeavor in every possible way to thoroughly test these lines and keep them in repair, there is more or less leakage.

Q.—At what pressure does the gas travel in high-pressure lines?

A.—We compress the gas to deliver it to the towns in Kentucky up to 325 pounds.

Q.—Does that result in a larger leakage than low pressure?

A.—Yes, the higher pressure you carry in a line the more leakage, of course, you have to contend with, and the more blow-ups you encounter.

Q.—Would it be possible to operate a natural gas company, and particularly the one which we are discussing, at

a lower rate for gas service, or a very considerably lower rate, if a less adequate service were attempted?

A.—Yes——

Q.—I mean particularly that if you would give service in ordinary weather, but couldn't give satisfactory service in extremely cold weather, to what extent would the difference in operating costs be?

A.—It would be considerably cheaper to give poorer service. In other words, if you didn't have to carry an adequate supply of gas at all times to take care of the market in extremely cold weather you would not have to carry such an enormous expenditure in wells drilled and compressor stations installed.

Q.—Well, what kind of service have you attempted to give and are you giving in Ashland, Catlettsburgh and Louisa?

A.—I feel that those towns have had an adequate supply of gas for domestic services at all times. In fact, I don't believe there is any other place in the United States that has been taken care of as well as the consumers connected to the United Fuel Gas Company's lines. We have at all times watched our pressures very carefully, and keep a force of men at work constantly, maintaining our own telephone system, telegraph system, receiving the pressures along the lines every thirty minutes during the day; and when the pressure decreases at any point that endangers the domestic, we immediately shut off any industrial business or manufacturing business that may have any place in the system, regardless of the price that we are receiving for the gas from that class of consumer.

Mr. Wallace, the ultimate object of this investigation and this proceeding is to ascertain what is a fair and reasonable rate for the natural gas service rendered in these three cities. You have said that a less adequate service could be furnished at less cost. Looking at it now from the standpoint of the consumer, is an adequate natural gas service of more value to that consumer than an inadequate service, and to what extent does it differ?

A.—I would consider it much more valuable to the consumer to have adequate service than intermittent service; and I feel that you will all agree that it is a very disagreeable proposition to get up in the morning and find your gas supply discontinued or curtailed to such an extent as to cause you inconvenience, especially in cold weather. I myself would pay a much better price for adequate service than I would consider for inferior service.

Q.—It is a fact, is it not, that at various places in Ohio, Pennsylvania, Indiana, and even in West Virginia, during the past several winters the service of various natural gas companies has been inadequate, is it not?

A.—Practically all of the cities through Ohio and Pennsylvania have been inconvenienced by shortage of gas to a great extent during the last several years, and numerous towns in West Virginia have had inadequate service in cold weather.

Q.—Will you state the substance of the statute which was passed by the last West Virginia Legislature relating to this matter? I don't expect you to give the text of the law——

A.—Are you alluding to the Steptoe——?

Q.—Yes.

A.—As I understand, providing that law is declared constitutional, we will not be at liberty to pipe any gas out of the state of West Virginia into Kentucky, Ohio or Pennsylvania until all consumers, both industrial and domestic, in manufacturing service as well as other small gas companies, have had an adequate supply for their use.

Q.—And, in fact, does it require you to furnish it to carbon black factories in this state in preference to taking it out?

A.—Yes, they can force you to supply it to carbon black factories.

Q.—What brought about the enactment of this law, if you know, if it is a matter of common knowledge?

A.—Why, the shortage of gas for industrial business, as well as in a great number of cases, domestic supply in the northern part of the state.

Q.—It is alleged in our answer in this proceeding, and is not controverted, so far as I know, that we have no franchises from any of the three Kentucky cities that originated this complaint, the same having expired. It is also averred in this answer that the defendant company is ready and willing to withdraw from each of said three cities and take up its mains and pipes upon request of the cities or their properly constituted authorities. Is that still the attitude of the defendant company with reference to that matter?

A.—It is. We would be pleased to withdraw from those cities providing they are not satisfied with their service and the rates. I feel that we at the present time can make better use of that gas. We are connected at the present time with a very good market, people, I think that would pay a very good price for the gas.

Q.—You have said something about the comparative cost of producing and furnishing natural gas at this time as related to the earlier years of this company's existence. From the circumstances within your knowledge, what are the probabilities as to this matter in the future?

A.—The expense is going to increase rapidly—very rapidly as to producing gas and delivering it to market—much more rapidly than it has in the past.

Q.—Now, of course, we know that the war prices for a great many things are coming down; that the cost of certain materials which you use are coming down to some extent; the cost of labor in many industries is being reduced. Why is it that in your particular business these general reductions don't apply, if they don't apply?

A.—As to labor, take it in the cities and towns, we have to have skilled men, or men of experience in the gas business, for the safety factor; and from my own personal observation, if anything, expenses in these cities have not been reduced to any great extent, and I don't feel that we could reduce our wages to a point lower than what they are and be fair to the employees. In the field we also have to have skilled men to operate our wells and lines, construct our work, and those men are of considerable value to the

company after serving several years at the business, and when those men prove their value it is just at the time when we need the gas the worst. We are troubled with frozen lines and bad operating conditions in the winter time, and we have a class of men that have proven that they will get out and work day and night, regardless of what the weather is, to take care of landslides, frozen lines and things of that sort; and I feel that while they are amply paid they are not overpaid for the services they are rendering, and I should dislike very much to go into the winter with another class of employees.

As regards to material, a large factor in the gas business is steel pipe and casing, wire lines and material along that line. That is, that is the bulk of the money that is expended—it is for that class of material, as well as compressors. Take common steel pipe, the last quotation that I have looked at recently is a quotation, as I recollect, of $90 per ton f.o.b. the factory, or Pittsburgh. We have at the present time a high freight rate, which we did not have prior to the war, and this same class of material I purchased prior to the war—right prior to the war, or possibly after the war had started, at $35 per ton, so even with the decrease in material you will see that the prices are extremely high at the present time compared with what they were. There is a considerable decrease in some of the material, such as rubber belts and minor things that does not enter into the business as a large factor in expenditures.

Q.—Well, is there any peculiarity of this business resulting from this failing supply that tends to increase the cost of its production outside of conditions in ordinary activities?

A.—Yes, as the wells get older it takes—and you continue to drill wells you have to place on additional employees, and as I have previously stated you would have to install pumping outfits, which necessitates placing three men to do the work that prior to the time of installation of these pumping outfits one man would readily take care of.

Q.—Well, isn't the great factor the comparatively small quantity you get from the individual well?

A.—Yes, that, of course, is the largest factor.

Q.—And that will continually—?

A.—Continually decrease.

Q.—Continually get worse?

A.—Yes, sir. As I stated this morning, in the early history of this company the average was 7,000,000 daily cubic feet per well. At that time you could drill a well for $5,000, tube it and connect it to the line. Today that would cost approximately $14,000.

Q.—And you would get from it approximately what percentage of gas you got from earlier wells?

A.—About one-seventh.

Q.—So that it takes seven wells to do the work of one in former years, and that ratio will continue to increase?

A.—Yes. In looking over our reports I see our gas in the early history of the company averaged about $1,000 per million open-flow in the field, while now it is averaging around $15,000 per million open-flow in the field. You will understand that when you secure a million feet of gas you are not able to deliver a million feet of gas into the line. In fact, a very small proportion of that gas can be delivered into the line.

Q.—What are the differences now and formerly in the methods used in conserving gas at the source of production?

A.—We are at a very heavy expense in regard to conserving gas. In fact, I can state we have went to expenditures to conserve gas that would cost us for the gas secured as much as two or three times as we can secure for the same gas at market. In other words, gas that was being wasted or allowed to go into the air because it didn't have a rock pressure sufficient to put it into the line, we have installed compressors, laid lines to those wells, and pumped it to keep it from going into the air. The operating expenses of a well of that kind, I may state, would be at least two and a half times as much as we would receive for that same gas on its delivery to market.

Q.—There was, in former years, a great waste of gas, was there not?

A.—Yes, an enormous waste of gas through the drilling of oil wells and allowing the gas to go into the air instead of endeavoring to conserve it.

Q.—You said a while ago that the labor cost of operating compressor stations was something like forty or fifty thousand dollars a month, I believe.

A.—I noticed that in just glancing at the report—I believe it was yesterday—one of the monthly reports. I see the payroll is between forty and fifty thousand dollars.

Q.—Can you give us approximately the entire cost or expense of operating all the compressor stations of this company at this time, annually?

A.—No, I have not got that figure in front of me.

Q.—That is included in the transportation expense on the books, is it not?

A.—Yes.

Q.—There is an issue in this case as to how the gasoline earnings shall be regarded—that is, as to whether any part thereof shall be a credit on the operating expenses of the gas business. I wish you would state when this method of extracting the gasoline from natural gas was installed in the plants of this company, what had been the practice previous to that time with reference to the salvage of gasoline or its waste, and what the result of this installation is with reference to the quality of the gas which was afterwards delivered to the consumers and the character of service rendered to the consumers.

A.—Prior to the installation of these gasoline plants this gasoline referred to was blown or drawn from the lines at various points through drips, which had been installed in the line to catch the gasoline as it traveled through the line, while the gas was on its way to market. It was necessary to draw this gasoline out of the line or it would freeze up your lines and stop your flow of gas to the market. In catching this gasoline in the drips it was not for the purpose of saving it or making money, merely the case of allowing the gas to be delivered to market. In

drawing this gasoline or blowing it out of the lines there was a large amount of gas wasted and the expense was greater than what it is under the present method and the gas, on delivery to market, was not as clean a quality of gas as what we are delivering today. In other words, it had more of a tendency to form carbon and smut, and also an element of danger as to gasoline getting through and getting into the fires in some of the towns and cities, while today it is practically delivered free from gasoline or moisture through the operation of these gasoline plants, with no danger from gasoline and far less carbon or soot in the gas, and the heat units practically the same as before the gasoline was extracted, which not only conserves the gas, but while there is a certain amount of it necessarily used in making the gasoline, that is a very small factor compared with what was wasted previously in blowing it out of the drips.

Q.—Are the heat units lessened to an appreciable extent?

A.—No, they are not. I believe around in the neighborhood of 2 per cent. The heat units of this gas, I believe, runs around 1200 b. t. u's, so the 2 per cent would be a very small factor, I believe, and would not be noticed.

Q.—These gasoline plants have been profitable, have they not?

A.—They have.

Q.—This company is also engaged in the oil business to some extent, is it not?

A.—It is.

Q.—And during the past several years had a large revenue from oil?

A.—It has.

Q.—How does the price of oil during the past three or four years compare with the period previous to that?

A.—The price of oil, as I recollect it, increased from around $2 or $2.50 per barrel to $6.10 per barred during the war, and after the war there was a slump in the oil business. It decreased to around $2.25 per barrel, as I recollect, for

a short time, and it is now advancing rapidly and today's quotation is $4 a barrel.

Q.—Well, the operations of the oil property and earnings from it are separately conducted and kept from those of the gas business, are they not?

A.—They are, yes, sir.

Q.—It has been a matter of some criticism that the defendant company, during the past several years, have paid what seemed to be large dividends. Were those dividends paid in part from the gasoline and oil earnings?

A.—They were. A considerable part of them.

Q.—For how long was the company engaged in business without paying any dividends.

A.—The company was organized—commenced business in 1903, and it paid its first cash dividends in December, 1916.

Q.—Isn't that more or less charcteristic of all successful oil or gas producing companies, that they have a long period of years in developing the property, with little or no net income, that they then have a period of a few years of seemingly great prosperity, and then die a gradual death?

A.—That is absolutely the case in all instances that I know of. It takes them a great many years to build up to a dividend-paying basis, and, as you say, a few years' prosperity and then they are going down the line and out of business.

Q.—Taking into consideration that character of property, or character of enterprise, its known short life, do you believe that capital could be obtained to develop an oil or gas property unless there was at least the possibility, if not the probability, that during some short period of time at least very large profits would be paid?

A.—I don't believe that you could interest capital in the oil or gas business unless they felt satisfied they were going to have a certain period in which they could realize extremely large earnings.

Q.—There is a gambling feature connected with it, isn't there?

A.—Absolutely there is a gamble, and you would necessarily expect large dividends if you are successful in securing the product.

Q.—Do you know whether or not it would be possible to obtain capital to develop natural gas property before it were known to what extent it would be productive if in advance it were known that the investors would not under any circumstances be permitted to earn over, say eight of ten per cent at any time?

A.—I absolutely know that you could interest no capital in a proposition of that kind.

Q.—As a usual thing this company and other smaller companies operate lands for the production of gas under lease rather than as owners of the land, do they not?

A.—They do.

Q.—And those leases are generally for a specified number of years and may be kept in force without being operated, are they not?

A.—They are.

Q.—And in order to hold together a gas producing field these leases have to be renewed from time to time, do they not?

A.—They do, yes, sir.

Q.—Is that constantly going on in the operations of this company?

A.—It is, yes, sir.

Q.—What is the tendency and what has been the tendency for the past ten years in the rental or royalty costs of such leases in renewing them?

A.—The tendency has been that you would have to pay a considerable increase in the price to renew the leases. In developed territory or proven territory that you formerly had under lease at a dollar an acre, at the expiration of that lease, regardless of how small it is, if it is a half an acre or a quarter of an acre or ten acres, they will demand at least $300 a year rental, where possibly prior to that time you had that same acreage for a dollar or $5 a year. We have a large amount of acreage in small tracts in which we

are paying three to six hundred dollars a year rental. Possibly it don't consist of over an acre or two of land, but it necessitated our paying it. In one instance in our field a small tract that had gotten loose in our proven territory—I think that is the tract I spoke of—possibly an acre, not over two acres—I offered the land owner $25,000, I think, bonus for a lease on it. He refused it, with the understanding that he could lease the land to carbon black people and make more money out of it.

Q.—It has been shown in this case, Mr. Wallace, that the actual cash investment of the defendant company in its gas property, exclusive of its gasoline and oil property, was, as of July 31, 1921, something over $25,000,000, to which there was added on the books of the company in its capital account, as of December 31, 1918, the sum of $31,778,111.42, the additional sum being the result of an appraisal of the property by I. C. White, S. S. Wyer and John Davidson. I want to ask you whether, in your opinion, the fair actual value of this gas property as of December 31, 1918, being the time when said appraisal was completed, is equal to the sum of the cash investment plus the addition made by the appraisal.

A.—I feel that it is a fair valuation.

Q.—And that the property had a fair value of that combined sum as of December 31, 1918?

A.—I do, yes, sir.

Q.—Upon what do you base that opinion?

A.—Upon the value of the gas territory and my opinion as to the amount of gas underlying it, also the installation of lines, compressors and so forth that was already installed, and the large transportation lines that we laid from these compressor stations connecting with other companies, who receive a high price for gas, and their urgent need of this product on account of their supply being rapidly diminished. I feel that the price that can be received for the gas under the ground would be very remunerative in the future, and that the amount of gas underlying acreage, taking into consideration the installation and the markets, is worth all

of the appraisal that these gentlemen have set on it as a value.

Q.—The property is connected by large trunk lines with the chief distributing centers of the Appalachian fields, is it not?

A.—It is, with nothing less than 18 to 20 inch lines leading to the Pittsburgh markets and Ohio markets, which are in need of gas at the present time.

MR. ALTIZER—That is all, I think, gentlemen—unless you can think of something to volunteer.

A.—No, only in so far as I feel that there should be some consideration given to this company as to turning down the profitable market right at home to take care of the domestic consumption in these Kentucky towns. We could make considerably more money by selling the gas at home at the prices that have been offered, provided we will take the market on them, than we will realize for the gas after being distributed in Kentucky towns, as I spoke of this morning, and under this request here to furnish them with gas at 35 cents right at home for domestic service we have also been requested to supply gas at 35 cents for industrial business within 12 miles of Charleston, which if we would have taken on would practically take all the gas that we have, and we could take any amount of it to that market that we desired to, but if we did so there would necessarily be no gas supplied at the farther end of the line—of our distribution system.

Q.—And your attitude is that rather than suffer any reduction of rates in those Kentucky towns you would prefer—

A.—To take on this business at home.

Q.—And withdraw entirely from domestic service in Kentucky?

A.—Yes. I don't see how we could be expected to do anything else. I think there is considerable credit due to the officers of the company that it has not been done before this.

CROSS-EXAMINATION

BY MR. WILLIS:

Q.—Mr. Wallace, in your direct testimony this morning you gave a number of localities with the rates charged for gas. Do you know whether those rates were based on agreements or fixed by public service commissions?

A.—In practically all cases that I know of, within my personal knowledge, they were fixed by a commission. That is in the West Virginia towns and some of the Pennsylvania towns. This Ohio case that I have reference to, of course, was fixed by the judge.

Q.—But that was just a temporary rate pending the litigation?

A.—Yes, just a temporary rate in which he increased the price above that which had been previously allowed by the court.

Q.—As I understand that, there is a controversy in Cleveland between the gas company and the city, and the city undertook by ordinance to fix a rate, which the company contested in the courts, and pending the final decision the court fixed this rate to govern until there was a final decision?

A.—Yes.

Q.—I believe in your testimony you named the different companies to which this defendant company sells gas by wholesale. One of them was the Central Kentucky Natural Gas Company. Is there any connection, through stock ownership or otherwise, between the United Fuel Gas Company and the Central Kentucky Natural Gas Company?

A.—No, sir.

Q.—Is the gas sold to them by contract?

A.—Yes, by contract.

Q.—When was that contract made—approximately?

A.—I would have to look that up. It was before I came to this company. (Witness refers to book.) November 1st, 1912.

Q.—Does that contract run for a number of years?

A.—It does.

Q.—Has there been any change in the wholesale price to them since November 1st, 1912, to the present time?

A.—The contract calls for an increase yearly—a continuous increase from November 30, 1913, up until the expiration of the contract—a continuous increase up until November 30, 1922. Out of their extreme generosity, however, they gave us a little increase in gas above the contract price on account of the expense we were to—

Q.—You also have a contract with the Louisville Gas & Electric Company?

A.—Yes, sir.

Q.—About when was that made?

A.—July 5, 1913.

Q.—Is that still in force?

A.—It is.

Q.—Is there any connection between the Louisville Gas & Electric Company and the United Fuel Gas Company by stock ownership or otherwise?

A.—There is not.

Q.—Simply the relation of seller and purchaser?

A.—That is it.

Q.—Does it also have a sliding scale upward as the contract expires?

A.—It does.

Q.—Another customer, I believe, is the Columbia Gas & Electric Company, Cincinnati. Does it have any connection with this company or their line in any way

A.—Yes, it is the parent company and owns 51 per cent of the United Fuel Gas Company.

Q.—And is the gas furnished to it by a contract, or how is it sold to it?

A.—By contract.

Q.—Is it a long-term contract?

A.—The contract expires—the original contract, on December 31, 1919. It has a clause by which it can be extended from time to time till December 31, 1929.

Q.—Was it extended under that clause so that it is now in force between the companies?

A.—Yes, it is now in force between the companies.

Q.—Does the United Fuel Gas Company have any connection with the Hope Natural Gas Company?

A.—Only so far as seller and purchaser.

Q.—And the Pittsburgh & West Virginia Gas Company?

A.—The same connection as with the Hope.

Q.—And the Ohio Fuel Supply Company?

A.—The Ohio Fuel Supply Company owns 49 per cent of the United Fuel Gas Company.

Q.—About what percentage of the production of the United Fuel Gas Company is sold to these six companies that I have named

MR. ALTIZER—What time are you talking about?

MR. WILLIS—I had in mind the present time, during the past eight months of this present year. If you have not got that we can take 1920.

A.—A fraction over 29 per cent. It includes the Portsmouth Gas Company, of Portsmouth, Ohio.

Q.—What, in your judgment, would be the salvage value of the property of the United Fuel Gas Company if the gas fields were exhausted, Mr. Wallace?

A.—There would be very little salvage.

Q.—Have you an idea of the percentage?

A.—The larger portion of it—take the trunk lines and pipe lines, the chances are the expense of taking them up and salvaging them would be as much as you could secure for them. Possibly the compressor stations and things of that kind there might be some salvage value there, but the salvage value would be very little.

Q.—Pipes and casings hardly pay for removing from the wells unless there is a great shortage or something of that kind, do they?

A.—Yes, take the usual market price of pipe and the expense of abandoning the well according to the state laws and pulling your casings and the small amount of casings that you secure from each well, there would be, the chances

are, very little salvage value left. In most instances the outer casings have been removed and the inside ones, you only get a part of them, and you would have to go to considerable expense to secure them.

Q.—In the manufacture of gasoline the gas is not used but the gasoline is simply extrated from it and then the gas is sent on to the consumers?

A.—Yes, the gas that is transported to market is put through what is known as an absorption system, which consists of a battery of absorbers, which partly consists of mineral seal oil. This gas, passing through the mineral seal oil, the oil acts as a blotter for the gas and blots the gasoline out of the gas and absorbs it in the oil, and then the oil is refined and that is the way the gasoline is secured.

Q.—There is no gas consumed in manufacturing gasoline, or very little?

A.—Very little. From an engineering standpoint I believe they claim about 40 feet of gas to the gallon of gasoline, while from my standpoint I consider at least double that.

Q.—These gasoline plants are simply placed on the main lines of the gas so that there is no extra cost of transporting gas on account of the gasoline plant?

A.—No, there is no extra cost in the transportation.

Q.—The gasoline plants do not in any way increase the cost of supplying gas to the different cities?

A.—No, they do not. In fact, in some instances we secure gas by having gasoline plants that would not be profitable to take to market unless we could derive some value from the gasoline extracted. That, in connection with the gas, allows you to save gas that otherwise would have to be wasted.

Q.—Is the wholesale business to these various companies that we have spoken of more profitable than the industrial business?

A.—No, the industrial business is more profitable than the wholesale contracts at the present time—that is, in comparison to the amount of gas delivered.

Q.—Are you familiar with the total cost of annual rentals on the unoperated acreage of the company, or can I get that from Mr. Seyffert?

A.—I am familiar with it in a general way. To give you the exact figures you would have to secure it from Mr. Seyffert.

Q.—Approximately what is the annual rentals on the unoperated acreage?

A.—I would say that averages about a dollar per acre.

Q.—And the report of Mr. Wyer shows the amount of unoperated acreage?

A.—Yes. Well, I wouldn't say that that dollar an acre would take in the unoperated acreage.

Q.—Well, that is what I was speaking of. There are no rentals on the operated acreage, are there; you pay royalties on that?

A.—Well, we have a lot of unoperated acreage that is not proven territory that is not considered as valuable as other operated acreage, for which we pay a higher rental.

Q.—For instance, I notice you have a considerable acreage in Greenup county, Kentucky.

A.—Yes.

Q.—There has never been any discovery of gas in Greenup county?

A.—No, not in marketable quantity.

Q.—I judge in there your annual rental is very small?

A.—Very small in Greenup county, Kentucky.

Q.—But I judge in Martin or Lawrence or Johnson it is very considerable?

A.—Yes, it is at a higher rate, although the Kentucky acreage is under lease at an average cheaper in price than the West Virginia proven acreage.

Q.—Does this company operate any oil wells?

A.—Yes.

(And further this deponent saith not.)

L. A. SEYFFERT

recalled, testified as follows on—

CROSS-EXAMINATION

BY MR. WILLIS:

Q.—Mr. Seyffert, the gentlemen who made the appraisal for the United Fuel Gas Company, Mr. Samuel S. Wyer, Dr. I. C. White and Mr. John Davidson, were employed by the gas company to make an appraisal for them to be used in their rate hearing in West Virginia or any other place?

A.—Yes, sir.

Q.—And they each testified, I believe, before the Public Service Commission of West Virginia?

A.—They did.

Q.—In your books and accounts you keep the depreciation and depletion charge under what is known as the straight line method, I believe?

A.—Yes, sir.

Q.—And under that method the actual money is used for the purpose of the company and not accumulated as in a sinking fund?

A.—We have no separate fund in which that money is impounded, no, sir.

Q.—It is a mere matter of bookkeeping to keep track of a certain fund for that purpose?

A.—Yes, sir.

Q.—Is there any deduction made from the capital following the making of a depreciation and depletion charge?

A.—It is shown on the opposite side of the balance sheet.

Q.—I wish you would explain the difference in the sales basis and in the sales-mileage basis for the distribution of capital investment.

A.—The sales basis simply uses the total number of cubic feet sold to each class of consumers.

MR. ALTIZER: In each locality?

A.—In each locality; all right. And the percentage of the total is arrived at for each of those localities or classes of consumers, and the production investment then is divided upon that basis, the assumption being that each locality should have charged against it the amount of producing investment in accordance with the amount—in proportion to the amount that they use or draw on that property for their use.

Q.—Now, go ahead as to the transportation investment.

A.—You just asked about the sales?

MR. WILLIS—Yes.

A.—And the sales-mileage also?

Q.—Yes.

A.—In the sales-mileage basis the total number of cubic feet in each division or each class of consumption is multiplied by the distance that that gas is transported, giving you a factor which is termed sales-time-distance in millions of cubic feet. Then the percentage of each of those factors and the total of the factors gives you the sales-mileage basis for each division. For instance, the sales basis for the gas transported to Ashland is 1.76 per cent of the total gas sold. The average distance the gas is transported to Ashland is 75 miles; therefore the total number of cubic feet multiplied by 70 miles gives you the factor of 30,000,520, and gives you the percentage of sales-mileage of 3.03 per cent of the total.

MR. ALTIZER—I don't want to interrupt you, but in your calculations you use the sales-mileage basis purely in ascertaining the transportation investment in the property?

A.—In the transportation.

Q.—You agree with Mr. Weiss that the production investment is apportioned on a sales basis?

A.—Yes, sir.

MR. WILLIS—And then the total transportation investment apportioned to Ashland is 3.03 per cent?

A.—Right. And the total production investment apportioned to Ashland is 1.76 per cent.

Q.—I believe in your testimony yesterday or this morning you stated that the return for Ashland was 8.25 per cent, Catlettsburg 8.26 per cent, and Louisa 9.65 per cent, based on Mr. Weiss's calculations except as to the sales-mileage basis being substituted for the pure sales basis, and allowing a working capital of 5 per cent instead of 2 per cent, and excluding industrial gas sales. Did you not also take the capitalization of the company based on present value rather than on actual investment?

A.—Not in that calculation.

Q.—Not in that calculation?

A.—No, sir.

Q.—You did in the other calculation?

A.—I did in the other calculation.

Q.—Could you give me approximately the annual rentals on the unoperated acreage paid by the United Fuel Gas Company?

A.—The rentals on unoperated leases paid in the year of 1920 were $646,287.83.

Q.—Is that treated as capital investment or as expense of operation?

A.—Expense of operation.

Q.—It is so treated in all your accounts?

A.—All the accounts, yes.

Q.—If, in drilling a well on a gas lease, you discover oil, is there any charge then made to the oil business for the expense which has been paid by the gas company for the original lease and for the annual rentals thereon?

A.—No, there is not. Our leases are all taken primarily for the gas business, and even after the oil well on it there might be gas still developed on that lease.

Q.—And it is still carried as a gas lease?

A.—It is still carried as a gas lease.

Q.—And the oil business is not charged with anything for the lease or for the rental, but is charged for the royalty from that time on?

A.—Well, of course, the charge is paid out of the oil, so there is no more charge on the lease after the oil has been developed.

Q.—About how many men have you employed regularly in Louisa, Ashland and Catlettsburg?

A.—I could hardly say off-hand.

Q.—Is it substantially the same it has been for the past four or five years?

A.—Yes, I should say it would be substantially the same.

Q.—Has there been any increase in the number of men you have had to maintain in those three cities or on the pipe lines between those cities?

A.—Well, not substantially. There have been a little more working expenses and things of that sort.

Q.—The increased expense which is shown in your exhibit is caused by higher wages paid the men and not by an increase in the number of employees?

A.—That would be more than likely true. Expense in the cities has increased, however.

Q.—Both in rentals and in the salaries of men?

A.—Yes, sir.

Q.—Do you own any of your offices in the three cities involved?

A.—We do in Catlettsburg.

Q.—But not in Louisa or Ashland?

A.—Not in Ashland, and I don't think we do in Louisa.

Q.—Mr. Weiss in his last report—I am not sure about the other one—allowed as working capital the earnings for two full months. Does that figure out about 2 per cent of the capital as he fixed the capital or as you fixed it?

A.—I think you are mistaken in saying two months' earnings; two months' expense—what he claims is two months' expense, and that did figure out about 2 per cent on his capital, but he was low on what he termed his two months' expense. The expenses are running pretty

close to $400,000 a month, and he has figured it as $300,000 a month; and in his former report he states that large amounts of material and supplies should be included in working capital, which he has omitted in the second report.

Q.—All of your bills for domestic service are collected monthly.

A.—Yes, sir.

Q.—How are they collected for your industrial and wholesale service?

A.—Monthly also.

Q.—So that every two months, or with a working capital sufficient to run you two months, you would then have an opportunity to collect at least one month's earnings?

A.—Yes, sir.

Q.—So that you would really have on hands at 'most any time the working capital plus one month's earnings, if you were not—

A.—Well, of course, the larger part of those accounts are not paid until the latter part of the second month, and the bills for the previous month are paid in the early part of that month, so that really you have got to have the money for two months.

Q.—How many gasoline plants has the United Fuel Gas Company?

A.—Eight.

Q.—Any of them located in Kentucky?

A.—One of them.

Q.—Just out of Catlettsburg?

A.—Well, that is the—They own that—Yes, there is two in Kentucky, the other one up at Warfield.

MR. ALTIZER—Explain that fully—if I may interrupt—Warfield is not entirely in Kentucky?

A.—No. The reason I hesitated a little, part of the plant at Warfield is on the West Virginia side.

MR. WILLIS—Isn't that also true at Catlettsburg?

A.—No.

Q.—There seems to be two different things there.

A.—One is a compressor station and one a gasoline station, but at Warfield part of the plant is on the Kentucky side and part on the West Virginia side.

Q.—Is the extracting of gasoline from the gas done after it has been compressed or before?

A.—It depends upon the location of the plant. In most cases it is done after.

Q.—Does that affect the manufacture of gasoline in any way?

A.—Yes, it does, not the actual fact of compressing it, but you get a little better yield if you have a higher pressure on your gas.

Q.—That is the reason the gasoline plants are not located near the wells, but down on the line after the—

A.—Well, they should be located after the gas is collected also, because it would not be profitable to put so many plants on each gathering line in the field.

Q.—The gas is gathered up to a single main and after there is a certain amount of pressure it enables you to extract the gasoline more economically?

A.—Yes.

Q.—None of the Martin county or Kentucky gas is sold in Ashland, Louisa or Catlettsburg?

A.—No.

Q.—It is sold to the Louisville or Central Kentucky Natural Gas?

A.—On some towns right in that vicinity. Williamson, West Virginia, gets gas from that field. Inez and Warfield, Kermit—

Q.—You have no production in Kentucky except in Martin county?

A.—That is all.

Q.—Just for purposes of illustration of the effect of figuring the sales-mileage basis, what would be the difference in the price of gas at Huntington and Ashland, which are sixteen miles apart, Ashland being sixteen miles further away from the gas fields than Huntington?

A.—I have not figured it out in that way.

Q.—You haven't got Huntington?

A.—I can give you the percentage. The percentage of the transmission investment that would be applicable to Huntington would be 4.92 per cent, whereas for Ashland it would be 3.03 per cent.

Q.—Is Huntington a greater distance from the fields than Ashland?

A.—No, Huntington is closer, but they sell more gas.

Q.—Oh, I see.

A.—So that the percentage would be higher.

Q.—There is no way to get at the difference in mileage alone, because there are no two towns that have exactly the same consumption of gas—

A.—No, I don't know of any way.

Q.—There is no known method of ascertaining the exact cost of transmitting gas over distances except by taking the entire proposition and working it out on some basis such as you have adopted?

A.—That is the only way I know of. There is no exact science, unless you only had one field and one pipe line.

Q.—It is not like the cost of carrying a commodity, where you know exactly what it costs to transport it from one point to another?

A.—No, it is not.

Q.—The only part of that which can be ascertained definitely is the cost of laying and maintaining pipe lines?

MR. ALTIZER—And compressor stations.

MR. WILLIS—And compressor stations?

A.—Yes.

Q.—So far as the actual operation of transmitting gas, it would be impossible?

A.—Yes.

Q.—Were the compressor stations installed before the gasoline plants were installed?

A.—They started before the gasoline—The compressor stations were started to build in 1913, and there was no

gasoline extracted until the latter part of 1916. It was 1917 before we were extracting very much gasoline.

Q.—Does the manufacture of gasoline require more or larger compressor stations than without it?

A.—The gasoline stations have nothing whatever to do with the compressor stations. The compressor stations are built to take the gas to the market, and the gasoline stations are incidental to that transmission.

Q.—The only difference between your figures and Mr. Weiss's figures is made by the basis of the calculation?

A.—In the one report, yes.

Q.—You used the same basis—

A.—In my report giving the percentage of return as 8.25, 8.26 and 9.65, respectively, the only difference between that and Mr. Weiss's report are those that are specifically enumerated.

Q.—That excluded industrial gas sales and included the wholesale?

A.—Well, it included the wholesale, but not—There is no part of that chargeable to Ashland and Catlettsburg.

Q.—That was separate from the—

A.—Separate entirely.

Q.—Did you figure out the percentage of earnings of the company on all its business?

A.—Yes.

Q.—What was that?

A.—1.44 per cent.

Q.—Less than 2 per cent of the entire business?

A.—Less than 2 per cent.

MR. ALTIZER—On the gas business only, I presume?

A.—Gas business only, yes, sir.

MR. WILLIS—The earnings, then, for the Kentucky towns are slightly more than for the West Virginia towns?

A.—Yes, sir.

(And further this deponent saith not.)

STATE OF WEST VIRGINIA, }
COUNTY OF KANAWHA, } To wit:

I, Charles V. Price, a notary public in and for the county and state aforesaid, do hereby certify that the foregoing depositions of L. A. Seyffert and H. A. Wallace were taken, sworn to and subscribed before me at the times and place and for the purpose in the caption hereto mentioned, the said witnesses having been by me duly sworn before giving their said depositions.

My commission expires May 2, 1931.

Given under my hand and notarial seal this the ... day of November, 1921.

.....
Notary Public.

o

TAXATION OF COSTS

Price & Keller, Shorthand Reporters,

Attendance, taking depositions, 1½ days	$15.00
Transcribing same, words,	
Original (filed with Commission) @ 20 cents per 100,	
Carbon (furnished defendant) @ 6 cents,	
Total of above (payable by defendant)	$

o

Carbon copy (furnished City Attorney of Ashland and payable by City of Ashland) words @ 10 cents per 100	$

.....
Notary Public.

BEFORE THE
RAILROAD COMMISSION
OF
THE COMMONWEALTH OF KENTUCKY

REPORT
ON NATURAL GAS RATES OF
UNITED FUEL GAS COMPANY, INC.
IN BEHALF OF THE CITIES OF
ASHLAND, CATLETTSBURG AND LOUISA, KENTUCKY

W. H. WEISS,
Engineer,
Kansas City, Mo.

Exhibit B—17.

BEFORE THE

RAILROAD COMMISSION

OF

THE COMMONWEALTH OF KENTUCKY

CITY OF CATLETTSBURG, et al, Plaintiffs, vs. UNITED FUEL GAS COMPANY, Defendant.	**In re: Complaint that Rate Charged for Natural Gas by the United Fuel Company to the Plaintiffs and the Inhabitants of Said Cities is unreasonable, Unjust and Extortionate**

REPORT

of investigation made in behalf of the plaintiffs, of the investment, revenues, and operating expenses of the United Fuel Gas Company, and other matters pertinent to the issues, to be introduced and filed as an exhibit by the plaintiffs upon the hearing hereof.

Historical

The petitions and answers filed herein are adopted as setting forth the relations existing between the parties, in the matters in issue.

In addition to producing, purchasing, transporting and selling natural gas to domestic and industrial consumers in

cities, towns, villages and communities of the States of West Virginia, Kentucky and Ohio, the United Fuel Gas Company also sells gas at wholesale to other distributing companies in Ohio, Kentucky and West Virginia; and produces and sells petroleum oil and is engaged in the manufacture and sale of gasoline from natural gas.

The location of its several production, transmission and distribution system plants and properties is shown by the map filed as an appendix hereto.

For the period during which the Company has been operating and developing, the annual sales have been:

Year	M. Cubic Feet
1910	19,177,211
1911	23,725,188
1912	28,820,950
1913	28,151,600
1914	29,283,145
1915	29,594,673
1916	39,290,446
1917	60,610,866
1918	57,035,146
1919	51,650,275
1920	51,795,457
Seven months ended July 31, 1921	23,763,470

The greatly increased sales in 1917 and 1918 were due undoubtedly to abnormal manufacturing demands caused by the war. The sales statistics of the wholesale business and the industrial business of the Company for 1917, which showed increases in wholesale and industrial sales in excess of 70 per cent., tend to confirm this.

Apportionment of Investment and Expense

As stated, the Company is engaged in the production and transmission of natural gas and the sale thereof at retail to domestic and industrial consumers in various cities, towns, villages and communities in West Virginia, Kentucky and Ohio,

and to wholesale customers for resale. It divides its retail business into five geographical divisions namely:

Ashland, Kentucky, Division comprises:

Ashland, Catlettsburg, Russell, Pollard, Louisa, Inez, Warfield, Buchanan, Burnaugh, Wolf Creek, and Rural Districts along the pipe lines in Boyd, Lawrence and Martin Counties, Greenup, Chinnville, Worthington and Rural Districts along the pipe lines in Greenup County, Ky., Kermit and Fort Gay, West Virginia.

Ironton, Ohio, Division comprises:

Ironton, Coal Grove, Hanging Rock, New Boston, Sciotoville and Wheelersburg.

Charleston, W. Va., Division comprises:

City of Charleston, W. Va., and all smaller towns adjacent thereto.

Huntington, W. Va., Division comprises:

City of Huntington, W. Va., and all smaller towns in West Virginia adjacent thereto and four small communities in Ohio in the immediate vicinity of Huntington.

Spencer, W. Va., Division comprises:

Spencer, W. Va., and the smaller towns adjacent thereto.

("Other Charleston division" and "other Huntington division" as used in this report, refers to the smaller towns adjacent thereto, respectively.)

The joint (common use) made of the natural gas production fields by the various divisions served and of the inter connected nature of the transmission pipe lines serving these divisions requires the apportionment of investment and expense to the Cities of Ashland, Catlettsburg and Louisa and to the other

communities in the Ashland division and to the Ironton, Ohio, and the several West Virginia Divisions and wholesale division in order to show the investment and expenses allocatable to said cities and divisions. The distribution system property investments are separately shown on the books of the Company for each city and divisions; and similarly, the actual amounts expended for local management, superintendence, reading meters, and rendering and collecting bills, repairs, etc., in each city and division are shown separately on the books of the Company.

For the purpose of this report, we have apportioned the joint investment and expenses (such as are used and expended in the supply of gas to consumers in all of the cities and divisions aforesaid) upon the basis of use, in the proportion that the volume of gas supplied to each city and division bears to the entire volume produced, purchased, transported and delivered.

This method (sales basis) has the approval of Public Service Commissions in gas rate cases, to-wit:

In Landon v. Lawrence, P. U. R. 1916, B, 331, the Corporation Commission of Kansas (p. 340) said:

> "* * * the value of such portions (of property) as were used for the purpose of furnishing gas to the markets of both States was divided, in the case of each line, between the two States in the proportion that the volume of gas transported through such line and distributed in each state, respectively, bears to the entire volume passing through the line."

In Re Pawhuska Oil & Gas Co., P. U. R. 1917, D, 947, the Corporation Commission of Oklahoma said:

> "Values, revenues, and expenses of a natural gas producing system were apportioned between distributing systems on the basis of sales to each system."

In Re Ashtabula Gas Company et al., Ohio State Reports, 1917 Annual 76; P. U. R. 1917, D, 790, before the Public Utilities Commission of Ohio, a number of cities were furnished

from and through the same source of supply and transmission pipe lines.

The Commission, (p. 801), said:

> "It is customary for gas companies to charge the same rate for service in the various municipalities which are served from the same source of supply without taking into account the variance in distances from the point of origin or the difference in cost of distributing plants due to local conditions. * * * As the chief benefit to be derived must depend upon the volume and pressure, it is to the advantage of each that the gas for all is transported through one main line and not through three, which gives added volume and pressure to each, and if each pays in proportion to the amount consumed, each bears its proper share of the whole transportation and distribution expense."

In City of Erie et al., v. Pennsylvania Gas Co., before the Public Service Commission of Pennsylvania files C. 1437, 1342, 3215, decided May 26, 1921, (not yet reported in P. U. R.), the Gas Company produces gas in Pennsylvania for sale in that State and for transportation and sale in cities located in New York state; the jointly used property was apportioned between the Pennsylvania communities and the New York state cities, on the sales basis, namely:

> "The respondent, supplied gas to consumers in Jamestown and suburbs, in the State of New York, as well as to the Cities of Erie and Corry and the Borough of Warren and some minor places, in the State of Pennsylvania. In the values agreed upon in the engineering conferences, as well as the computation of final values submitted in evidence by the engineers of the respective parties, only the properties used in the Pennsylvania business are included. As to such properties as are used in the supply of gas to consumers in both states, the proportion apportionable to the State of Pennsylvania is based upon the amount of gas supplied by respondent to consumers in Pennsylvania, in proportion to the total amount which it supplies in both states, which is 73 per cent. of total."

In Re Davis v. Pennsylvania Gas Company, the New York Public Service Commission for the 2nd District, decided

December 23, 1920, P. U. R. 1921 B, 342, and on rehearing decided June 15, 1921, (unreported):

> "Compute the value of the jointly used property (between Pennsylvania and New York) on the ratio of New York sales to total sales (sales basis) in order to ascertain the investment devoted to the service in New York state. The sales in New York were, 1,526,447 M cubic feet and the total sales (in both Pennsylvania and New York) were 5,685,816 M. cubic feet, producing a ratio of 26.8%. (pp. 351, 352, 360, 361.)"

In Re Complaint v. Westchester Lighting Co., before the New York Public Service Commission (2nd District), decided December 22, 1914, 4 P. S. C. Reports 269, 333, the Commission approved:

> "Pro-rating transmission costs of gas applying to a line or main used for two or more districts according to sales."

The Public Utilities Commission of Michigan Re Holland vs. McGuire, P. U. R. 1920, B, 149:

> "In a proceeding to fix gas rates the property of the Gas Company was apportioned between the different communities served by it on the basis of gas sales."

In Re United Fuel Gas Company, before the West Virginia Public Service Commission, P. U. R. 1920, C, 583, case No. 845, decided December 19, 1919, p. 606, it was said:

> • • • "in apportioning the value of applicants property and its earnings and expenses as between its wholesale and retail business, and as between localities and divisions, we have followed substantially the rules and principles laid down in Bulletin No. 43, Case 585 (Re United Fuel Gas Co. P. U. R. 1918 C, 193), and will not repeat what we there said. However, in making this assignment and apportionment, less weight has been given to the distance factor in allocating the transmission investment, for the reason that taking into consideration applican's whole system of connected mains and lines, its various compressor stations and the location of its sources of gas supply,

aside from leakage and waste in transmission, the distance factor seems to have but little more than nominal effect upon the cost of transporting gas from applicant's gas fields to its several West Virginia divisions. Proceeding upon the basis here outlined, we have apportioned and assigned the value of applicant's property as between its wholesale and retail business and between localities and divisions, as shown by the following tables:

Wholesale	$20,000,000
City of Charleston	3,850,000
Kentucky and Ohio Districts	3,000,000
Other West Virginia districts	2,030,000
City of Huntington	1,120,000

Table 1, Appendix 1, will show the gas sales for the year ended December 31, 1920, and also for the seven (7) months ended July 31, 1921, to wholesale and retail customers and the percentage of sales to each customer of the total sales, and forms the basis of the apportionment of jointly used property and expenses.

Natural Gas Investment

Table II, Appendix 1, will show the investment as reflected by the books and records on December 31, 1920, as adjusted by us, and Table III, Appendix 1, will show the investment as reflected by the books and records, on July 31, 1921, as adjusted by us.

Incomplete construction as at December 31, 1920, amounted to $511,080.96 and included $58,507.62 properly chargeable to oil investment.

The total sum also included "discount on bonds $168,591.08; it also included Adjustment Account, $756,601.18.

"Incomplete Construction" is construction which is not finished, hence is not used or useful and is not producing revenue, for which reason it is the universal practice of rate-making authorities to exclude the same from the rate base. (See P. U. R. 1920 C, 583, head note 7), furthermore, during the construction period, interest is allowed thereon in the cost of construction. Nevertheless, pending a ruling thereon by this Commission we have tentatively included the same in our

computation and this results to increase the rate base by approximately $550,000.00; the return and depreciation allowance thereon amounts to about one-eighth of one cent per thousand cubic feet of the total gas sales in 1920.

"Adjustment Account." In response to request for an explanation of this account the Company stated:

> "With reference to the item headed "adjustment," this covers dry holes, surrendered leases, abandoned well, etc., which had accumulated from the beginning of the company to the time when we charged these items off during the year. It is a part of our actual investment, but we show it in a separate item so as not to have in our item of wells, acreage, etc., anything that has been surrendered or abandoned. The item is being amortized each year at the rate of five per cent."

Superseded and abandoned property is no longer used and useful and therefore, should not be included in the rate base. It should have been amortized from earnings at the time it was superseded or abandoned, and if the Company failed to exact sufficient rates for its service to enable it to do so, the fault was its own (Knoxville v. Knoxville Water Co., 212 U. S. 1).

Pending a ruling thereon by the Railroad Commission of Kentucky we have tentatively included the amount in our computations and this results to increase the rate base by approximately $915,000.00; the return and depreciation allowance thereon, amounts to about ½ cents per thousand cubic feet of the total gas sales in 1920.

We have excluded the $168,591.08 "discount on bonds." The practice is to exclude all bond discounts and expense from property costs and to place such discounts and expense in a separate account to be amortized through earnings. In this manner, consideration is given to discounts and expense of bond sales in the rate of return to be allowed the Company on its investment. And see "Valuation of Public Service Corporations," Whitten, Vol. 1-268; Re Citizens Telephone Co. P. U. R. 1919, B. 353, 354, (Indiana) for full discussion and authorities cited.

The exclusion of that portion of the Incomplete Construction belonging to the oil business, $58,507.62, and the elimina-

tion of "bond discount $168,591.08 from the total gas investment cost of $25,065,520.99, results in an adjusted investment cost, with the addition of 10 per cent. for overhead charges, of $27,322,264.52 as at December 31st, 1920. This cost is distributed by systems as shown in Table II, Apendix 1; and the jointly used property is apportioned to the City of Ashland, Ky., the City of Catlettsburg, Ky., the City of Louisa, Ky., and to the other subdivisions of the Company's service according to the basis set forth in Table I hereof. The distribution system investment in said cities and other subdivisions of the Company's service, is shown by the books of entry and this apportionment, after distributing the incomplete construction and the addition of 10 per cent. overhead charges has been adopted herein. The detail figures appear in Table A, Appendix 1.

Investment in Unoperated Acreage

At December 31, 1920, the United Fuel Gas Co. was carrying as part of its gas investment, as reserve property, 760,417.84 acres, called "Unoperated leaseholds or acreage" valued at $6.39 per acre, and aggregating an investment charge of $4,846,050.61; at July 31 the investment charge was $4,733,695.62. The rentals, taxes, and other charges upon this acreage are carried as gas operating expense and paid from gas earnings. The operated and unoperated acreage carried by the Company, appear in Table XXIX, Appendix 1; the number of producing gas wells, operated acreage and average acres per well for the years 1911-1921 appear in Table XXX, Appendix 1. The amount of gas sold yearly from 1910 to July 31, 1921, is shown at page two (2) hereof.

We have tentatively included this unoperated acreage in the total investment, pending a showing by the Company of how much of the unoperated acreage is probable gas territory or how much is merely "wild-cat" territory. With the overhead charges and allowance for going concern value this means the inclusion of $5,863,700 in the amount upon which the return is computed in 1920, or allowing 8 per cent. return and 5 per cent. for depletion aggregates an annual charge to the consumers of approximately $762,000.00 or about 1½ cents per thousand cubic feet of gas sold in 1920. The return and

depletion allowance on the unoperated acreage included in the 1921 computations amounts to almost 2 cents per thousand cubic feet for gas sold to July 31, 1921.

Working Capital

The chief function of Working Capital for a Public Utilty is to provide a reasonable stock of supplies, and sufficient cash to pay the current operating expenses in advance of the collection of its revenue, and certain prepayments, such as fire insurance premiums, etc. It does not include reserve funds for bond interest, sinking funds and construction capital (cash and material for new construction); and it has been held that it does not include reserve funds for taxes.

It has been the practice of rate regulating authorities to allow from one-eighth to one-twelfth of the annual gross operating expenses for working capital; and in some cases the amount has been determined by the allowance of one month's average collections for sales of gas. (Re West Virginia Gas Co. P. U. R. 1918, C 453, 467.) We have computed the amount allowed for working capital—cash and material and supplies—at two (2) months, or one-sixth of the annual operating expenses, including the general taxes and believe that this sum will amply cover the Company's requirements.

Going Value—Going Concern Value

Is recognized as a property right which should be considered in arriving at the value of the property of the Utility, and upon which it has the right to earn a return.

A going concern has value first, because it has earning power which a concern of like efficiency but without business has not, and second because it has cost something to attach such business to the going concern. We have adopted 10 per cent. of the physical investment cost as the fair amount inhering in the property as a going concern.

Total Investment—Natural Gas Service

The allowance for working capital and for going concern value has been added to the investment cost of the physical

property and distributed to the several divisions of the service made herein on the basis of the investment cost of the physical property and the same totals tentatively, as at December 31, 1920, $30,655,580.81. The apportionment thereof to the various divisions of the service as hereinbefore set forth appears in Table A, Appendix 1. The same treatment has been accorded the investment cost of the physical property, etc., as at July 31, 1921, and this appears in Table B, Appendix 1.

Annual Allowance for Depreciation and Depletion

Depreciation and Depletion Reserve.

In case No. 929, West Virginia Central Gas Co. et al, application to increase natural gas rates, decided March 31, 1920, the Public Service Commission defined "Depreciation" so clearly that we adopt the same, and quote: (Abstract P. U. R. 1920, C 613.)

> "Depreciation as applied to a gas utility is somewhat of a misnomer. For the water, electric or railway utility it is the sum which taken together with the allowance for current maintenance will take care of renewals and replacements and keep the property in 100% condition throughout the indefinite term of its existence. In the case of the gas utility it is, accurately speaking, the sum which should be set aside annually to amortize and return to its stockholders the value of their investment, less its prospective salvage value, when the gas fields are exhausted. The sum allowable for this purpose is properly based upon the prespective useful life of the utility rather than a fixed percentage of the fair value of its property, and varies according to the pertinent facts in each particular case. The sum to be set aside annually for this purpose should remain constant throughout the normal rate period, and if actually earned, should, in arriving at the return upon investment, be annually subtracted from the fair value. To illustrate: A given gas utility may have a fair value of $1,000,000 and a prospective life of ten years with a probable salvage value of 20%. In this case the sum to be set aside for depreciation annually should equal one-tenth of 80% of the fair value and when earned should be taken from the fair value in considering a rate of return to the stockholders, so that for the last years

of its life the utility is entitled to earn such net sum as will produce the full rate of depreciation fixed for the period and in addition, a fair return upon the fair value not theretofore amortized or absorbed by prior earned depreciation."

In 1917 the United Fuel Gas Co. (for convenience hereinafter referred to as the Company), commenced to set up a reserve for depreciation and depletion on the straight line basis or method (dividing the wearing value or total possible depreciation and depletion by the estimated life of the plant), and computed the same as follows:

"The $4,000,000.00 charged off for depletion and depreciation for the year 1920 is apportioned to the several investment features as follows:

Operated and Unoperated Gas Acreage	5%
Operated and Unoperated Oil Acreage	15%
Gas Wells, Well Connection Line, Telegraph and Telephone Line, Service Lines, Gasoline Stations	10%
Main, Field Gathering, and Street Mains, Measuring Stations, Office Furniture, Compressor Stations	5%
Large Tools, Horses, Wagons and Automobiles	20%
Buildings	3%
Oil Investment	15%

In distributing the depreciation, the various investment features are taken as a whole, and not distributed as to Distribution, Production and Transmission. The depletion and depreciation, or the book value, is charged to the Profit and Loss account, while that portion applying to the value added by appraisal is charged against a surplus account set up especially for that purpose."

It should be noted that the percentages are computed on the total investment cost of the physical property, no allowance being made for prospective salvage value.

The amounts so set up annually for the Gas Investment were:

Year	Depreciation	Depletion	Total
1917	$ 943,858.33	$ 332,212.40	$1,276,070.73
1918	979,801.80	314,293.52	1,294,095.32
1919	1,103,031.13	327,959.43	1,430,990.56
1920	1,211,808.87	332,110.60	1,543,919.47
Total	$4,238,500.13	$1,306,575.95	$5,545,076.08

For the years 1917 to 1920, inclusive, the Company expended from this account for the purpose thereof $83,211.40 for Depreciation and $15,278.52 for Depletion a total of $98,489.92, leaving to the credit of said account $5,446,586.16 as of December 31, 1920. If we add thereto the amount computed to July 31, 1921, namely $921,539.65 (see Table B, Appendix I) gives the sum of $6,368,125.81 to the credit of said account at July 31, 1921, less any expenditures made therefrom during 1921.

The New York Public Service Commission in Breen v. Northern New York Utilities, Inc., decided Oct. 28, 1920, P. U. R. 1921 A., 463, in response to the claim of the Utility that the amount of such a reserve should not be deducted from the fixed capital account in arriving at the investment of the Company in property devoted to the public service, (p. 469) said:

> "The fund so created is in the nature of a trust fund which is provided for renewals and replacements of fixed capital and drawn on for those purposes as the actual renewals and replacements become necessary. The accruals are made on the basis of the theoretical depreciation, while the disbursements are of should be made to meet the actual replacement costs as and when the depreciation becomes realized. The fund is contributed by the public in the rates for that purpose. The theory is that eventually it will exactly equal the depreciation and obsolescence in the depreciable property. The accruals to the fund necessarily precede the actual replacements, however, and, as a result, there is found to exist a running balance in this account representing money which has been contributed by the public in the way of rates. In practice, this balance is "borrowed" from the fund and devoted to immediate corporate purposes such as working capital and the acquisition of new property. The reserve account thus becomes a mere accounting figure. The fund itself is put to use and becomes for practical purposes the equivalent of active capital which otherwise must needs be raised by note or security issues and upon which a return is allowed. Sinking funds cannot properly be thus mingled with the general funds of the company, but the money itself must be set apart or invested and the accrued interest or earnings of the fund, being necessary to round out

the amount required at the end of the period, cannot be charged against the corporation as a part of its corporate income. It is upon these considerations that the Commission has adopted the rule of deducting the amount of the balance in the amortization or depreciation account from the fixed capital in arriving at a basis for the fixing of rates, where the facts are as found in this case."

The West Virginia Public Service Commission, in Re Chesapeake & Potomac Telephone Co. decided November 27, 1920, P. U. R. 1921 B 97 at p. 108-110 discussed "Depreciation," and deducted the amount of the earned depreciation from the fixed capital account in arriving at the fair value of the property upon which the return was computed (p. 112). And see Clarksburg Light & Heat Co. v. Public Service Commission (Supreme Court of West Virginia, Oct. 7, 1919, 100 S. E. 551, 556; Davis v. Penna. Gas Co. P. U. R. 1921 B 342, 351; Re Elmira Water, Light & R. R. Co. P. U. R. 1921, B 690, 697; Re New York State Railways P. U. R. 1921, C 480; Re Brooklyn Borough Gas Co. Supreme Court of New York, before Chas. E. Hughes, Referee, P. U. R. 1918, F 335, 358; Re Leadville Water Co. P. U. R. 1920 D 172, 181; Re Lansing Fuel & Gas Co. P. U. R. 1921, C 465, 469; Railroad Commission of Louisiana v. Cumberland Telephone & Telegraph Co. 212 U. S. 414, 423, 424, 425.

In our Exhibit Table I, Appendix 1, we have accepted the amount of the Reserve for Depreciation and Depletion on the investment cost, accrued in the year 1920 as set up by the Company and in Table II, Appendix 1, have used the same basis of computation to determine the amount for Depreciation and Depletion to be included in the operating expenses for the seven months ended July 31, 1921.

Assuming that the Company has earned a fair return, plus the depreciation and depletion reserve as set up on the straight line method and not on the sinking fund method, and has expended this sum in betterment or additions to property, or paid out the same to stockholders or otherwise, its fixed capital should be reduced to that extent in arriving at the investment in property devoted to the public service.

Pending a ruling thereon from this Commission, we have made no reduction in the fixed capital on this account and our computations are based upon the undepreciated investment.

Revenues, Expenses and Operating Profit

The operating revenues and expenses for the year ended December 31, 1920, and for the seven months ended July 31, 1921, are accepted by us without adjustment except as to the reduction of the operating expenses by one-half of the net profits arising from the production and sale of gasoline. This follows the practise of the West Virginia Public Service Commission in Re United Fuel Gas Co. Case No. 585, decided February 28, 1918, P. U. R. 1918 C 193, 211-217; and in the United Fuel Gas Co. case No. 845, decided December 19, 1919, P. U. R. 1920 C 583, wherein the same Commission (p. 605), said:

> "No evidence has been offered to justify a change or modification of our conclusions regarding the treatment of applicant's gasoline business, and we still adhere to our opinion as expressed in Case 585, that applicant's investment in its gasoline business should be excluded from its gas investment and one-half of the net profits arising therefrom credited to production expense. We are further of the opinion that these profits should be assigned to the localities and divisions upon the basis of sales."

The same Commission in Re West Virginia Central Gas Co. case No. 929, (Supra) gave consideration to the income from sales of gasoline and added the total thereof to the gross revenue in the determination of the rates for natural gas.

The total net expenses have been distributed among the several divisions of the service on the same apportionment bases as were used in connection with the investment distribution (see Table I); distribution and commercial expenses are separately shown for each division on the Company's books, hence are charged directly to the several divisions shown herein. Depreciation and Depletion allowance has been distributed between the several divisions on the same basis as the property investment cost whereon the allowance is computed. No

consideration was given or deduction from the investment cost of depreciable property on account of the prospective salvage value was made. The amount set up on this account by the Company in 1920 was adopted and distributed according to the weighted average percentage. And the same basis was followed in computing the allowance for the seven months ended July 31, 1921.

Accordingly there is included in our computations of operating expenses an allowance for depletion of unoperated acreage, none of which is used or useful at the present time and some of which may never become useful.

The non-operating revenues for the year ended December 31, 1920, and for the seven months ended July 31, 1921, were derived from property included in the investment hence the amounts thereof have been added to the operating profit for said period herein discussed to reflect the amount of earnings on investment.

Federal Income and other War Taxes, have uniformly been held not to be a part of the operating expenses of public utilities to be borne by the consumers (Re Public Service Co. (Ill.), P. U. R. 1919 D 809; Re Quincy R. Co. (Ill.), P. U. R. 1919 E. 390; Re Indianapolis Water Co. (Ind.), P. U. R. 1919 A 448; Re Springfield City Water Co. (Mo.), P. U. R. 1919 D 853; Re Iroquois Natural Gas Co. (N. Y.), P. U. R. 1919 D 76; Re San Diego Consol. Gas & Elec. Co. (Cal.), P. U. R. 1919 D 924. No consideration has been given to the war profits and excess profits taxes in the computations hereinabove submitted. However, we have tentatively included in the operating expenses the total Income Tax as estimated properly chargeable to the Natural Gas department and these have been distributed on the basis of the gross income in the several divisions included in this report.

The percentage earned in 1920 on investment, considering the items of operating and non-operating revenues, and income tax is shown in Table A, Appendix 1, and for the period of 1921, as shown in Table B, Appendix 1.

Conclusion

From the foregoing statements and facts relating to the investment, revenues and operating expenses, the adjustments

which have been made therein, and the manner in which these have been apportioned between the classes of service and between localities, we have prepared Tables C and D, Appendix 1 to show for the year 1920 and for the period ended July 31, 1921, respectively, the operating and non-operating revenues, the total operating expenses, including depreciation, depletion and income tax, and the net income for returns on investment of the Company as a whole, and for the cities of Ashland, Catlettsburg, Louisa and the other Ashland division, in the order named.

The tables also show the amount required for return on investment at the rates of 8 per cent., 9 per cent. and 10 per cent. respectively, and the amount of earnings in excess of said rates of return and the equivalent thereof in cents per 1000 cubic feet of gas sold in said cities and division in the year 1920 and the period ended July 31, 1921.

In the large amount of investigation and study which has been necessary in the preparation of this report, the Company has cordially and fully co-operated. It has pursued a frank and open policy with respect to its properties, books, records and methods. Its officials have gone farther and have worked out and furnished all data requested by us, and every facility was extended for carrying on our work, for all of which we wish to record our appreciation and to return our sincere thanks.

Respectfully submitted,

W. H. WEISS,
Engineer.

October 4, 1921

APPENDIX 1

TABLES

A, B, C, D and 1 to 35 inclusive

MAP OF

NATURAL GAS PROPERTY

Showing Per Cent

	Total for Natural Gas
Investment:	
Production, Transmission and General Property	$35,349,213
Distribution System Property	1,973,050
Total Physical Property	37,322,264
Working Capital at 2.2%	601,089
Going Concern Value 10%	2,732,226
Total Investment	$39,655,580
Operating Revenues	7,494,400
Operating Expenses:	
Gas Purchased, Production, Transmission, General, and General Taxes	$ 1,194,679
Distribution and Commercial	245,019
Total	$ 1,439,699
Depreciation and Depletion at 5.66%	$ 1,543,919
Total Operating Expenses including Depreciation and Depletion	$ 4,983,619
Less One-half Net Gasoline Earnings	1,234,700
Net Operating Expenses	3,748,919
Income from Operation	3,745,481
Non-Operating Income	34,083
Gross Income	3,779,564
Income Tax, Estimated	138,876
Gross Income after allowing for Income Tax	$ 3,640,688
Percent Return on Investment represented by	
Income from Operation	12.20
Gross Income	12.32
Gross Income after allowing Income Tax	11.87

*Includes all West Virginia Divisions except Charleston City and Hunt

TABLE A.

UNITED FUEL GAS COMPANY, INC.

INVESTMENT, REVENUES, EXPENSES AND OPERATING PROFIT.

rned on the Total Natural Gas Investment and on the Investment in the Several Divi
Year Ended December 31, 1920.

	City of Ashland	City of Catlettsburg	City of Louisa	Other Ashland Division	City of Charleston	
	$ 927,781 23	$ 103,931 78	$ 40,758 74	$ 760,476 42	$3,675,636 01	$ 8
	161,370 11	41,523 97	18,092 85	79,907 34	564,913 94	4
	1,089,151 34	145,455 75	58,851 59	840,383 76	4,240,549 95	1,2
	23,961 33	3,200 00	1,294 73	18,488 45	93,292 10	
	108,915 13	14,545 58	5,885 16	84,038 38	424,054 99	1
	$1,222,027 80	$ 163,201 33	$ 66,031 48	$ 942,910 59	$4,757,897 04	$1,4
	565,739 25	69,917 60	29,121 40	429,578 39	1,258,351 00	1
	$ 116,925 28	$ 13,098 19	5,111 49	95,840 39	463,220 60	1
	22,645 08	6,379 81	3,236 24	8,664 25	71,993 77	
	$ 139,570 36	$ 19,478 00	$ 8,347 73	$ 104,504 64	$ 535,214 37	$ 1
	$ 61,645 94	$ 8,232 81	3,331 02	47,565 73	240,015 13	
	$ 201,216 30	$ 27,710 81	11,678 75	152,070 37	775,229 50	1
	45,190 02	5,062 27	1,975 52	37,041 00	179,031 50	
	156,026 28	22,648 54	9,703 23	115,029 31	596,198 00	
	607,712 97	47,269 06	19,418 17	314,549 08	657,153 00	
	3,715 08	429 44	173 82	2,862 97	5,964 50	
	611,428 05	47,698 50	19,591 99	317,412 05	663,117 50	
	14,811 41	1,717 20	605 31	13,426 83	23,872 00	
	$ 196,616 64	$ 45,981 30	18,986 68	303,985 22	639,245 50	
	33 66	29 00	29 40	33 36	13 80	
	33 67	29 25	29 69	33 66	13 93	
	32 45	28 00	28 80	32 24	13 43	

ston City.

TABLE A.

UNITED FUEL GAS COMPANY, INC.

INVESTMENT, REVENUES, EXPENSES AND OPERATI

Showing Per Cent Earned on the Total Natural Gas Investment and on the Inve
Year Ended December 31, 1920.

	Total for Natural Gas	City of Ashland	City of Catlettsburg	City of Louisa	Oth Ashl Divis
	$25,349,213 89	$ 927,781 23	$ 103,931 78	$ 40,758 74	$ 760
	1,973,050 63	161,370 11	41,523 97	18,092 86	79
	27,322,264 52	1,089,151 34	145,455 75	58,851 59	840
	601,089 82	23,961 33	3,200 00	1,294 73	18
	2,732,226 47	108,915 13	14,545 58	5,885 16	84
	$30,655,580 81	$1,222,027 80	$ 163,201 33	$ 66,031 48	$ 942
	7,494,400 23	583,739 25	69,917 60	29,121 40	429
eral, and Gen-					
	$ 1,164,679 81	$ 116,925 28	$ 13,098 19	5,111 49	95
	245,019 74	22,645 08	6,379 81	3,236 24	8
	$ 1,439,699 55	$ 139,570 36	$ 19,478 00	$ 8,347 73	$ 104
	$ 1,561,919 47	$ 61,645 94	$ 8,232 81	3,331 02	47
ation and De-					
	$ 4,993,619 02	$ 201,216 30	$ 27,710 81	11,678 75	152
	1,234,700 00	45,190 02	5,062 27	1,975 52	37
	3,748,919 02	156,026 28	22,648 54	9,703 23	115
	9,745,481 21	407,712 97	47,269 06	19,418 17	314
	34,083 75	1,715 08	429 44	173 82	2
	3,779,564 96	411,428 05	47,698 50	19,591 99	317
	138,876 26	14,811 41	1,717 20	605 31	13
	$ 9,640,888 70	$ 396,616 64	$ 45,981 30	18,986 68	303
	12 20	33 66	29 00	29 40	33
	12 32	33 67	29 25	29 69	33
	11 87	32 45	28 00	28 80	32

t Charleston City and Huntington City.

G PROFIT.

ment in the Several Divisions.

d	City of Charleston	City of Huntington	Other West Virginia Division	Ironton, O Division	Wholesale Division
6 42	$3,675,636 01	$ 818,779 61	$1,538,885 82	$1,371,003 86	$16,111,960 42
7 34	564,913 94	494,229 93	360,814 27	252,198 22	
3 76	4,240,549 95	1,313,009 54	1,899,700 09	1,623,202 08	16,111,960 42
8 45	83,292 10	28,886 20	41,793 37	35,710 44	354,463 20
8 38	424,054 99	131,300 95	189,970 03	162,320 21	1,611,196 04
0 59	$4,757,897 04	$1,473,196 69	$2,131,463 49	$1,821,232 78	$18,077,619 66
8 39	1,253,351 00	346,214 12	617,018 73	770,510 87	3,414,948 77
0 39	463,220 60	103,188 16	205,745 23	161,011 87	2,030,538 60
4 25	71,993 77	45,295 74	51,498 51	35,306 34	
4 64	$ 535,214 37	$ 148,483 90	$ 257,243 74	$ 196,318 21	$ 2,030,538 60
5 73	240,015 13	74,316 36	105,002 28	91,873 23	911,936 94
0 37	775,229 50	222,800 29	362,246 02	288,191 44	2,942,475 54
1 00	179,031 50	39,880 81	79,614 68	62,228 88	784,775 32
9 31	566,198 00	182,919 48	282,631 34	225,962 56	2,157,700 22
9 08	657,153 00	163,294 64	334,387 39	544,548 41	1,257,248 55
2 97	5,964 50	1,475 79	2,000 07	5,044 28	12,417 80
2 95	663,117 50	164,770 43	336,387 46	549,592 72	1,269,666 35
6 83	23,872 00	5,940 00	12,009 93	20,785 60	45,707 98
5 22	639,245 50	158,830 43	324,377 53	528,807 12	1,223,958 37
	13 80	11 08	15 60	30 00	7 80
	13 93	11 20	15 80	30 12	7 88
	13 43	10 79	15 21	29 05	7 59

Showing Per

	Total f Natural
Investment	
Production, Transmission and General Property	$25 873 8
Distribution System Property	2 051 5
Total Physical Property	$27 925 4
Working Capital at 2%	55
Going Concern Value at 10%	2 792 5
Total Investment	$31 276 4
Operating Revenues	3 670 0
Operating Expenses	
Gas Purchased, Production, Transmission, General and General Taxes	1 692 3
Distribution and Commercial	151 1
Total	$ 1 843 5
Depreciation and Depletion at 5.66% for 7 Months	921 5
Total Operating Expenses including Depreciation and Depletion	$ 2 765 1
Less true-half Net transline Earnings	486 0
Net Operating Expenses	$ 2 279 1
Income from Operation	1 390 9
Non-operating Income	4 1
Gross Income	$ 1 395 0
Income Tax, Estimated	55 8
Gross Income after allowing for Income Tax	1 339 1
7 12ths Value of the Investment	18 243 0
Percent Return on Investment represented by	
Income from Operation	7 42
Gross Income	7 44
Gross Income after allowing for Income Tax	7 14

TABLE B.

UNITED FUEL GAS COMPANY, INC.

INVESTMENT, REVENUES, EXPENSES AND OPERATING PROFIT.

at Earned on the Total Natural Gas Investment and on the Investment in the Seven 7 Months Ended July 31, 1921.

	City of Ashland	City of Catlettsburg	City of Louisa	Other Ashland Division	Charles W. Vi Divisio
98	$ 750,343 41	$ 106,082 90	$ 54,335 14	$ 315,661 34	$3,881 08
30	201,497 39	50,134 08	19,296 86	43,804 24	716,11
28	$ 951,840 80	$ 156,216 98	$ 73,632 00	$ 359,465 58	$4,597,19
88	19,036 82	3,124 34	1,472 64	7,189 31	91,94
63	95,184 07	15,621 70	7,363 20	35,946 56	459,71
59	$1,066,061 69	$ 174,963 02	82,467 84	402,601 45	5,148,85
97	218,709 25	34,254 00	$ 17,701 47	$ 90,838 33	$ 621,36
21	69,078 82	6,938 73	3,553 98	20,646 95	253,85
56	13,352 73	3,278 24	2,402 26	4,281 37	59,86
0	$ 62,431 55	$ 10,216 97	$ 5,956 24	$ 24,928 32	$ 313,71
5	31,410 75	5,155 16	2,429 86	11,862 38	151,70
5	$ 93,842 30	$ 15,372 13	$ 8,386 10	$ 36,790 70	$ 465,42
0	14,094 53	1,992 60	1,020 07	5,929 20	72,90
5	$ 79,747 77	$ 13,379 53	$ 7,366 03	$ 30,866 50	$ 392,52
2	138,961 49	20,874 47	10,335 44	59,976 83	228,83
	378 02	61 63	32 87	176 69	63
	$ 139,339 50	$ 20,936 10	$ 10,368 31	$ 60,153 52	$ 229,49
	5,573 00	880 00	414 00	2,406 00	9,20
	133,766 50	20,056 10	9,954 31	57,753 52	220,29
	822 000 00	102,000 00	48,500 00	23,500 00	3,000,00
	22 34	20 46	21 30	25 50	7 63
	22 40	20 50	21 39	25 60	7 65
	21 50	19 61	20 52	24 57	7 34

...Several Divisions.

...rleston W. Va Division	Huntington, W. Va Division	Spencer W. Va Division	Ironton, O Division	Wholesale Division
...1 082 80	$2,181,168 08	$ 266,500 07	$ 951,459 68	$17,387,247 36
...16 112 18	698,981 01	64,911 02	236,827 32	..
...97 194 98	$2,880,149 09	$ 331,411 09	$1,188,287 00	$17,387,247 36
...91 943 80	57,602 98	6,608 22	23,765 74	347,764 94
...59 719 84	288,014 91	33,141 11	118,828 70	1,738,724 74
...48 857 12	3,225,766 98	371,160 42	1,330,881 84	19,473,737 04
...21 362 28	$ 403,143 97	$ 50,922 40	$ 247,631 75	$ 1,985,476 59
...33,455 58	142,667 05	17,431 44	60,925 63	1,137,274 66
...89 861 89	37,143 63	3,350 39	22,819 14	
...23,717 47	$ 179,810 68	$ 25,781 83	$ 83,444 77	$ 1,137,274 66
...81,707 81	95,044 92	10,936 56	39,213 47	573,779 15
...65,424 61	$ 274,855 60	$ 36,718 39	$ 122,658 24	$ 1,711,053 81
...72,900 00	40,969 80	5,005 80	17,496 00	326,582 00
...92,324 61	$ 233,885 80	$ 31,712 59	$ 105,162 24	$ 1,384,461 81
...29,937 57	169,259 17	19,209 91	142,469 51	601,014,78
657 ...	497 49	57 82	419 12	1,928 15
...29,495 ...	$ 169,756 06	$ 19,267 33	$ 142,888 63	$ 602,842 93
9,200 ...	6,400 00	771 00	5,720 00	24,120 00
...20,295 ...	162,956 06	18,496 33	137,168 63	578,722 93
...,000 ...	1,890,000 00	217,000 00	780,000 00	11,361,000 00
7 63	$ 95	$ 85	18 52	5 29
7 65	$ 94	$ 88	18 57	5 31
7 34	$ 60	$ 82	17 59	5 10

TABLE C

	Entire Company	City of Ashland	City of Catlettsburg	City of Louisa	Other Ashland Division
Operating Revenues	$ 7,494,406 23	$563,739 25	$69,917 60	$29,121 40	$429,578 39
Non-Operating Revenue	34,083 75	3,715 08	429 44	173 82	2,862 97
Total	$ 7,528,493 98	$567,454 33	$70,347 04	$29,295 22	$432,441 36
Net Operating Expenses including Depreciation, Depletion and Income Tax	3,887,795 28	170,837 69	24,365 74	10,308 54	128,456 14
Net Income for Returns	3,640,688 70	396,614 64	45,981 30	18,986 68	303,985 22
Value of the Investment	30,655,580 81	1,222,027 80	163,201 33	66,031 48	942,910 59
Rate of Income	11 88%	32 45%	28 00%	28 80%	32 24%
Amount Gas sold in M. Cubic Feet	51,795,457	1,895,395	211,139	82,871	1,546,809
Amount required for Return at rate of 8 per cent		97,760 00	13,040 00	5,280 00	75,440 00
Earnings in Excess of 8 per cent. Return		298,854 64	32,941 30	13,706 68	228,545 22
Equivalent in cents per M. Cubic Feet Gas sold		15 25	15 50	16 50	14 64
Amount required for Return at rate of 9 per cent		109,980 00	14,670 00	5,940 00	84,870 00
Earnings in Excess of 9 per cent. Return		186,634 64	31,311 30	13,046 68	219,115 22
Equivalent in cents per M. Cubic Feet sold		15 12	15 00	15 70	14 23
Amount required for return at rate of 10%		122,203 00	16,320 00	6,603 00	94,291 00
Earnings in Excess of 10 per cent. Return		274,411 64	29,661 30	12,383 68	209,694 22
Equivalent in cents per M. Cubic Feet sold		14 50	14 57	15 00	13 55

TABLE D

	Entire Company	City of Ashland	City of Catlettsburg	City of Louisa	Other Ashland Division
Operating Revenue	$ 3,670,039 97	$218,709 25	$34,254 00	$17,701 47	$ 90,838 33
Non-Operating Revenue	4 109 31	378 02	61 63	32 87	176 69
Total	3,674 149 28	219,087 27	34,315 63	17,734 34	91,015 02
Net Operating Expenses including Depreciation, Depletion and Income Tax	2,334 979 75	85,320 77	14,259 00	7,780 03	33,361 50
Net Income for Returns	1,339,169 53	133,766 50	20,056 63	9,954 31	57,753 52
7 12ths Value of Investment	18,243,000 00	622,000 00	102,000 00	48,500 00	235,000 00
Rate of Income	7 34%	21 50%	19 61%	20 52%	24 57%
Amount Gas sold in M. Cubic Feet	23,763 470	660,142	97,640	50,314	291,164
Amount required for Return at rate of 9 per cent		59,760 00	8,160 00	3,880 00	18,800 00
Earnings in Excess of 9 per cent Return		84,006 50	11,896 63	6,074 31	38,953 52
Equivalent in cents per M. Cubic Feet Gas sold		12 72	12 19	12 07	13 40
Amount required for Return at rate of 9 per cent		55,980 00	9,180 00	4,365 00	21,115 00
Earnings in Excess of 9 per cent Return		77,786 50	10,876 63	5,589 31	36,638 52
Equivalent in cents per M. Cubic Feet Gas sold		11 78	11 20	11 12	12 60
Amount required for Return at rate of 10 per cent		62,200 00	10,200 00	4,850 00	23,500 00
Earnings in Excess of 10 per cent. Return		71,566 50	9,856 63	5,104 31	34,253 52
Equivalent in cents per M. Cubic Feet Gas sold		10 71	10 00	10 00	11 70

TABLE D (a)

Income after Allowing Income Tax for Return on Investment after Deducting the Estimated Depreciation and Depletion Reserve Credit as at July 31, 1921, and Using Seven Twelfths Thereof as the Rate Base for the 7 Months Period Ended July 31, 1921, and Showing Amounts Required for Return on Said Depreciated Investment, at Rates of 8%, 9% and 10%, Respectively, and Earnings in Excess of said Rates of Return, and the Equivalent Thereof in Cents per 1000 Cubic Feet Gas Sold in the Period Ended July 31, 1921.

	Total For Natural Gas	City of Ashland	City of Catlettsburg	City of Louisa	Other Ashland Division
Total Investment	$31,276,497 59				
Less Estimated Depreciation and Depletion Reserve Credit	6,243,100 59				
Total as Rate Base 1921	25,033,397 00	$725,968 85	$102,636 93	$52,570 13	$305,407 00
7/12 Value thereof to July 31, 1921	14,602,815 00	423,500 00	60,200 00	30,916 00	178,150 00
Net Income for Return	1,339,169 53	133,766 50	20,956 63	9,954 31	57,753 52
Rate of Income	9 10%	31 54%	33 04%	32 10%	32 40%
Amount Gas Sold in M. Cubic Feet	23,763,470	660,142	97,640	50,314	291,164
Amount required for Return at 8 per cent		33,880 00	4,816 00	2,480 00	14,240 00
Earnings in Excess of 8 per cent		99,886 50	15,240 63	7,474 31	43,513 52
Equivalent in cents per M. Cubic Feet Gas Sold		15 13	15 50	15 00	14 90
Amount required for Return at rate of 9 per cent		38,115 00	5,418 00	2,790 00	16,023 50
Earnings in Excess of 9 per cent. Return		95,651 50	14,638 63	7,164 31	41,720 02
Equivalent in cents per M. Cubic Feet Gas sold		14 50	15 00	14 05	14 20
Amount required for Return at Rate of 10 per cent		42,350 00	6,020 00	3,092 00	17,815 00
Earnings in Excess of 10 per cent. Return		91,416 50	14,036 63	6,862 31	39,938 52
Equivalent in cents per M. Cubic Feet Gas sold		13 85	14 30	13 45	13 70

TABLE I

UNITED FUEL GAS COMPANY, INC.

Apportionment Bases—Statistics of Sales

	12 Months Ended December 31, 1920		7 Months Ended July 31, 1921	
	Sales in M Cubic Feet	Per-centage	Sales in M Cubic Feet	Per-centage
Wholesale Customers:				
Montgomery Gas Company			402	
Columbia Gas & Elec. Co.	10,312,994	19 96	3,815,501	16 06
Ohio Fuel Supply Co.	8,634,533	16 65	3,530,906	14 85
Central Ky. Natural Gas Co.	1,515,902	2 92	838,648	3 53
Louisville Gas & Elec. Co.	2,637,474	5 08	1,431,590	6 03
Portsmouth, Ohio, Gas Co.	1,531,301	2 96	685,179	2 93
Hope Natural Gas Co.	4,213,906	8 12	3,247,326	13 62
Pittsburgh & West Virginia Gas Co.	4,073,210	7 87	2,416,797	10 18
Total Wholesale Gas Sales	32,919,420	63 56	15,966,349	67 20
Retail Customers:				
Ironton, Ohio, Division	2,613,624	5 04	854,431	3 60
City of Ashland, Ky.	1,895,395	3 66	660,142	2 90
City of Catlettsburg, Ky.	211,139	41	97,640	41
City of Louisa, Ky.	82,871	16	50,314	21
Other Ashland Division	1,546,809	3 00	291,164	1 22
Spencer, W. Va., Division	543,437	1 05	306,675	1 03
City of Charleston, W. Va.	7,510,742	14 50	3,533,470	15 00*
Other Charleston Division	972,680	1 87	-	
City of Huntington, W. Va.	1,673,362	3 23	2,003,286	8 43†
Other Huntington Division	1,825,978	3 32		
Total Retail Sales	18,876,037	36 44	7,797,221	32 80
Grand Total of Sales	51,795,457	100 00	23,763,470	100 00

*Includes Charleston Division.

†Includes Huntington Division.

TABLE II

UNITED FUEL GAS COMPANY, INC.

Adjusted Distribution of Natural Gas Investment by Systems
as of December 31, 1920

Classification	Distribution	Production	Transmission	General	Total
Pipe	$ 597,020 35	$1,296,251 74	$3,353,627 46		$5,246,899 55
Casing in Wells		1,098,635 93			1,098,635 93
Other Well Construction		3,090,274 73			3,090,274 73
Acreage		(1) 6,856,179 39			(1) 6,856,179 39
Right of Way	2,356 86	33,931 09	71,455 71		107,743 66
Right of Way Expense	4,131 14	41,235 16	58,340 59		103,706 89
Buildings	34,673 77	54,469 05	141,625 68		230,768 50
Fittings	50,248 46	70,520 95	57,712 92		178,482 27
Gate Valves and other Material	22,275 54	43,831 27	37,616 30		103,723 11
Labor Teaming and Freight	403,138 47	855,362 60	2,027,579 46		3,286,080 53
Regulators	22,907 35	1,324 58	2,281 11		26,573 04
Telephone and Telegraph Lines			111,624 00		111,624 00
Office Furniture	10,543 39	2,343 57	594 02		14,480 98
Large Tools	7,254 00	5,601 24	498 98		13,354 22
Meters	370,968 75	6,937 35	7,464 86		385,370 96
Compressor Stations			2,172,130 65		2,172,130 65
Measuring Stations	20,625 38	45,651 15	38,220 95		104,497 46
Service Lines	236,058 37				236,058 37
Horses, Wagons and Automobiles	7,214 95	31,175 67	3,223 83		41,614 45
Drilling Tools		86,877 46			86,877 46
Cleaning Out Tools		32,248 76			32,248 76
Adjustment	1,386 00	755,415 08	200 03†		756,601 18
Incomplete Construction	2,879 54	318,908 69	130,786 11		452,573 34
Charleston Office Building Lot Furniture				101,982 84	101,982 84
Overhead Charges 10 per cent	179,368 24	1,472,817 55	821,458 16	10,198 28	2,483,842 23
Total	$1,973,050 63	$16,200,993 01	$9,036,039 76	$112,181 12	$27,322,364 52

(1) Operated, $2,027,505 23.
(1) Unoperated, $4,828,634 16.
† Credit.

UNITED FUEL GAS COMPANY, INC.

Adjusted Distribution of Natural Gas Investment by Systems as of July 31, 1921

Classification	Distribution	Production	Transmission	General	Total
Pipe	$ 602,842 32	$1,347,120 47	$3,360,761 95		$5,310,724 74
Casing in Wells		1,171,041 15			1,171,041 15
Other Well Construction		3,327,140 19			3,327,140 19
Operated Acreage		2,044,835 66			2,044,835 66
Unoperated Acreage		4,733,695 62			4,733,695 62
Rights of Way	2,366 86	34,859 79	71,540 67		108,767 32
Rights of Way Expense	4,131 14	41,343 91	58,531 89		104,006 94
Buildings	35,013 46	54,230 57	123,462 15		212,706 18
Fittings	50,750 37	72,540 03	58,168 66		181,459 06
Gate Valves and Other Material	22,310 02	44,586 42	37,799 51		104,696 95
Labor, Teaming and Freight	407,198 10	890,845 60	2,028,880 34		3,326,924 04
Regulators	22,794 02	1,286 03	2,375 34		26,455 39
Telegraph and Telephone Lines			111,139 35		111,139 35
Office Furniture	10,177 42	3,444 34	594 02		14,215 78
Large Tools	7,340 35	5,769 74	648 92		13,759 01
Meters	390,440 75	7,155 32	8,624 14		406,220 21
Compressor Stations			2,411,962 87		2,411,962 87
Measuring Stations	20,536 64	46,036 64	28,415 97		104,988 98
Service Lines	253,994 54				253,994 64
Horses, Wagons and Automobiles	7,305 57	28,998 84	2,024 12		38,328 53
Drilling Tools		85,683 58			85,683 58
Cleaning Out Tools		31,076 67			31,076 67
Adjustments	27,856 79	900,327 16	3,494 77		931,678 72
Incomplete Construction		114,696 31	114,696 30		229,392 61
Charleston Office Building, Lot and Furniture				$101,874 34	101,874 34
Overhead Charges, 10 per cent	186,505 85	1,498,671 37	843,312 10	101,187 43	2,538,676 75
Total	$2,051,564 30	$16,485,385 14	$9,276,433 08	$112,061 77	$27,925,444 28

TABLE IV

UNITED FUEL GAS COMPANY, INC.

Comparison of Sales in M Cubic Feet for Five Months Ended May 31, 1920 and 1921

	Five Months Ended May 31, 1920	Five Months Ended May 31, 1921	Difference
Wholesale Customers:			
Columbia Gas & Electric Co.	4,515,905	3,358,299	*1,157,606
Ohio Fuel Supply Co.	4,674,977	2,937,047	*1,737,930
Central Kentucky Natural Gas Co.	775,800	601,572	* 174,228
Louisville Gas & Elec. Co.	1,272,663	1,164,256	* 108,407
Portsmouth Gas Co.	809,839	601,507	* 208,332
Hope Natural Gas Co.	2,181,396	2,863,734	** 682,338
Pittsburgh & West Virginia Gas Co.	2,041,724	2,051,568	** 9,844
Montgomery Gas Co.		270	** 274
Total Wholesale	16,272,304	13,578,253	*2,694,051
Retail Customers:			
Ironton, Ohio, Division	736,432	691,878	* 44,554
Ashland, Ky., Division	1,948,642	947,793	*1,000,849
Huntington, W. Va., Division	1,654,466	1,607,369	* 47,097
Charleston, W. Va., Division	4,050,306	2,785,474	*1,264,832
Spencer, W. Va., Division	256,741	262,299	** 6,558
Total Retail	8,646,587	6,295,813	*2,350,774
Grand Total	24,918,891	19,874,066	*5,044,825

*Decrease
**Increase

TABLE V

UNITED FUEL GAS COMPANY, INC.

Comparison of Sales in M. Cubic Feet for Five Months Ended May 31, 1920 and 1921, in the Cities of Ashland, Ky., Catlettsburg, Ky., and Louisa, Ky.

		Domestic	Difference	Industrial	Difference
Ashland, Ky.	1920	1,382,524		655,198	
	1921	827,498	55,026*	223,777	431,421*
Catlettsburg, Ky.	1920	89,470		33,199	
	1921	78,122	11,348*	6,105	27,094*
Louisa, Ky.	1920	41,894		2,237	
	1921	36,955	4,939*	4,766	2,529**
Total			71,313		455,986

SUMMARY

	1920	1921	Difference
Domestic	515,888	442,575	71,313
Industrial	690,634	234,648	455,986
Grand Total	1,206,522	677,223	527,299*

(1) Includes Pollardand Oakview.
*Decrease—Grand Total
**Increase

TABLE VI

UNITED FUEL GAS COMPANY, INC.

Number of Consumers and Domestic Rate in Cities of Ashland, Ky., Catlettsburg, Ky., and Louisa, Ky., for Years 1909 to November 1, 1921

Year	ASHLAND		CATLETTSBURG		LOUISA	
	Number Consumers	Rate	Number Consumers	Rate	Number Consumers	Rate
1909	1,494	2500	542	2500	261	2500
1910	1,649	2500	648	2500	291	2500
1911	1,713	2500	722	2500	305	2500
1912	1,808	2500	813	2500	339	2500
1913	1,987	2500	911	2500	346	2500
1914	2,166	2000 and 1500	1,046	2000 and 1500	387	2000
1915	2,302	1500	1,170	1500	393	2000
1916	2,594	1500 and 2000	1,277	1500 and 2000	413	2000
1917	3,054	2000	1,021	2000	414	2000
1918	3,197	2000	1,072	2000	408	2000
1919	3,426	2500 and 3500	1,099	2500 and 3500	445	3500 and 3500
1920	3,647	3500	1,128	3500	470	3500
1921—to May 1	3,640	3500	1,116	3500	468	3500

TABLE VII

UNITED FUEL GAS COMPANY, INC.

Domestic and Industrial Gas Sales in M. Cubic Feet, Average Rate and Gross Receipts, Years 1909 to May 1, 1921 by Years.

ASHLAND, KENTUCKY.

Year		M. Cu. Ft.	Average Price	Amount
1909	Domestic	60,050	2483	14,912 50
	Industrial	799,285	075	59,975 50
	Total	859,335	0871	74,889 10
1910	Domestic	208,829	2426	50,669 40
	Industrial	2,234,181	0743	166,016 32
	Total	2,443,010	0887	216,685 72
1911	Domestic	202,430	2389	48,363 48
	Industrial	1,709,456	0743	126,949 39
	Total	1,911,886	0917	175,312 87
1912	Domestic	233,392	2079	48,518,15
	Industrial	1,524,574	0786	119,884 94
	Total	1,757,966	0958	168,403 09
1913	Domestic	230,877	2041	47,128 68
	Industrial	2,093,204	0823	172,339 46
	Total	2,324,081	0944	219,468 14
1914	Domestic	289,595	1803	52,223 57
	Industrial	1,973,251	0825	162,777 09
	Total	2,262,846	0950	215,000 66

TABLE VII—Continued.

Year		M. Cu. Ft.	Average Price	Amount
1915	Domestic	312,284	1514	47,264 21
	Industrial	581,535	0852	49,534 45
	Total	893,819	1083	96,798 66
1916	Domestic	365,449	1693	61,878 35
	Industrial	744,319	1105	82,242 49
	Total	1,109,768	1299	144,120 84
1917	Domestic	478,285	2016	96,438 04
	Industrial	1,509,279	1462	220,663 99
	Total	1,987,564	1595	317,102 03
1918	Domestic	523,275	2017	105,564 80
	Industrial	1,029,265	2000	205,853 00
	Total	1,552,540	2006	311,417 80
1919	Domestic	515,414	2683	138,291 66
	Industrial	918,454	2500	229,641 20
	Total	1,433,868	2566	367,932 86
1920	Domestic	643,447	3532	227,354 65
	Industrial	1,251,948	2688	336,484 60
	Total	1,849,656	2961	563,739 25
1921	Jan.-Feb.-Mar.-Apr.			
	Domestic	327,447	3526	115,467 84
	Industrial	173,646	3031	52,636 10
	Total	501,093	3381	168,103 94

TABLE VIII.

UNITED FUEL GAS COMPANY, INC.

Domestic and Industrial Gas Sales in M. Cubic Feet, Average Rate and Gross Receipts, Years 1909 to May 1, 1921, by Years.

CATLETTSBURG, KENTUCKY.

Year		M. Cu. Ft.	Average Price	Amount
1909	Domestic	20,406	2516	$ 5,133 30
	Industrial	9,671	1094	1,057 96
	Total	30,077	2058	6,191 26
1910	Domestic	72,423	2429	17,593 94
	Industrial	22,124	1009	2,232 50
	Total	94,547	2096	19,826 44
1911	Domestic	73,741	2368	17,460 03
	Industrial	91,011	0901	8,202 93
	Total	164,752	1558	25,662 96
1912	Domestic	94,566	2062	19,501 12
	Industrial	131,346	0896	11,772 54
	Total	225,912	1384	31,273 66
1913	Domestic	94,466	2053	19,395 81
	Industrial	138,528	0901	12,474 48
	Total	232,994	1368	31,870 29
1914	Domestic	122,415	1779	21,777 29
	Industrial	53,365	0932	4,973 70
	Total	175,780	1522	26,750 99

TABLE VIII—Continued.

Year		M. Cu. Ft.	Average Price	Amount
1915	Domestic	143,111	1514	21,661 97
	Industrial	56,640	0914	5,175 50
	Total	199,751	1344	26,837 47
1916	Domestic	162,124	1689	27,379 80
	Industrial	68,757	0955	6,568 76
	Total	230,881	1470	33,948 56
1917	Domestic	175,685	2017	35,430 40
	Industrial	70,164	1448	10,163 14
	Total	245,849	1855	45,593 54
1918	Domestic	159,188	2017	32,114 08
	Industrial	71,427	2011	14,364 74
	Total	230,615	2015	46,478 82
1919	Domestic	148,169	2690	39,859 66
	Industrial	63,025	2507	15,797 95
	Total	211,194	2635	55,657 61
1920	Domestic	154,049	3541	54,550 10
	Industrial	57,090	2692	15,367 50
	Total	211,139	3311	69,917 60
1921	Jan.-Feb.-Mar.-Apr.			
	Domestic	69,388	3520	24,427 90
	Industrial	4,420	3334	1,473 65
	Total	73,808	3509	25,901 55

TABLE IX.

UNITED FUEL GAS COMPANY, INC.

Domestic and Industrial Gas Sales in M. Cubic Feet, Average Rate and Gross Receipts, Years 1909 to May 1, 1921, By Years.

LOUISA, KENTUCKY.

Year		M. Cu. Ft.	Average Price	Amount
1909	Domestic	11,244	2446	$ 2,772 80
	Industrial	1,258	1800	148 45
	Total	12,502	2337	2,921 25
1910	Domestic	34,040	2460	8,375 00
	Industrial	2,179	1389	302 65
	Total	36,219	2393	8,677 65
1911	Domestic	37,096	2500	9,275 65
	Industrial	1,036	1500	155 40
	Total	38,132	2473	9,431 05
1912	Domestic	45,547	2160	9,836 54
	Industrial			
	Total	45,547	2160	9,836 54
1913	Domestic	45,227	2042	9,236 75
	Industrial			
	Total	45,227	2042	9,236 75
1914	Domestic	52,487	2021	10,609 87
	Industrial			
	Total	52,487	2021	10,609 87

TABLE IX—Continued.

Year		M. Cu. Ft.	Average Price	Amount
1915	Domestic	55,656	2016	11,220 88
	Industrial			
	Total	55,656	2016	11,220 88
1916	Domestic	57,203	2017	11,536 46
	Industrial			
	Total	57,203	2017	11,536 46
1917	Domestic	64,965	2017	13,104 82
	Industrial			
	Total	64,965	2017	13,104 82
1918	Domestic	67,032	2017	13,521 46
	Industrial			
	Total	67,032	2017	13,521 46
1919	Domestic	61,594	2682	16,519 02
	Industrial			
	Total	61,594	2682	16,519 02
1920	Domestic	72,756	3535	25,718 20
	Industrial	10,115	3365	3,403 20
	Total	82,871	3514	29,121 40
1921	Jan.-Feb.-Mar.-Apr.			
	Domestic	32,000	3521	11,268 75
	Industrial	3,452	3459	1,194 20
	Total	35,452	3515	12,462 95

TABLE X

UNITED FUEL GAS COMPANY, INC.

Total Amount of Gas Sold to Various Classes of Consumers and Average Price Received Therefor Years 1910 to May 1, 1921.

		M. Cubic Feet	Average Price
1910	Domestic	2,027,426	2349
	Industrial	7,950,043	0751
	Schools and Churches	328,924	1157
	Field Operations	916,212	0589
	Wholesale	7,954,606	0732
		19,177,211	0911
1911	Domestic	2,232,959	2291
	Industrial	7,826,393	0757
	Schools and Churches	133,931	1311
	Field Operations	1,191,175	0564
	Wholesale	12,340,730	0855
		23,725,188	0946
1912	Domestic	2,782,575	2060
	Industrial	9,108,584	0782
	Schools and Churches	57,564	1067
	Field Operations	3,570,631	0501
	Wholesale	13,101,596	0856
		28,620,950	0906
1913	Domestic	2,963,823	1995
	Industrial	9,115,805	0839
	Schools and Churches	57,577	1038
	Field Operations	2,734,135	0498
	Wholesale	13,280,260	0860
		28,151,600	0938
1914	Domestic	3,493,831	1858
	Industrial	8,080,732	0833
	Schools and Churches	150,173	0647
	Field Operations	1,439,416	0504
	Wholesale	16,118,993	0882
		29,283,145	0965
1915	Domestic	3,552,799	1708
	Industrial	8,024,953	0810
	Schools and Churches	148,303	0697
	Field Operations	651,391	0514
	Wholesale	17,217,227	0953
		29,594,673	0993

TABLE X—Continued.

		M. Cubic Feet	Average Price
1916	Domestic	3,952,471	1740
	Industrial	10,690,301	0832
	Schools and Churches	231,134	0625
	Field Operations	373,573	0500
	Wholesale	24,042,967	1021
		39,290,446	1035
1917	Domestic	4,833,832	1813
	Industrial	13,475,516	1166
	Schools and Churches	238,854	0655
	Field Operations	845,369	0500
	Wholesale	41,217,295	1036
		60,610,866	1118
1918	Domestic	5,372,701	1864
	Industrial	10,469,945	1518
	Schools and Churches	238,710	0660
	Field Operations	615,133	0674
	Wholesale	40,338,657	0994
		57,035,146	1167
1919	Domestic	5,690,284	2018
	Industrial	8,773,449	1544
	Schools and Churches	137,275	0945
	Field Operations	721,131	0859
	Wholesale	36,328,136	1018
		51,650,275	1216
1920	Domestic	6,599,400	2523
	Industrial	11,552,257	2077
	Schools and Churches	149,104	1709
	Field Operations	575,276	0950
	Wholesale	32,919,420	1037
		51,795,457	1459
To May 31, 1921			
	Domestic	3,337,071	2512
	Industrial	2,682,761	2020
	Schools and Churches	64,184	1744
	Field Operations	211,797	1000
	Wholesale	13,578,253	1243
		19,874,066	1560

TABLE XI

UNITED FUEL GAS COMPANY, INC.

Domestic and Industrial Gas Sales in M. Cubic Feet in Cities, Towns, Villages and Communities, States of Ohio and Kentucky, Rate of Charge and Total Amounts Received, Years 1919, 1920 and Four Months of 1921 to April 30, inclusive

	M. Cu. Ft.	1919 Rate	Amount	M. Cu. Ft.	1920 Rate	Amount	4 Months M. Cu. Ft.	End-ing Rate	4-30-21 Amount
Kentucky—									
Domestic	868,048	2696	$234,049 73	992,580	3549	$ 352,278 12	448,226	3536	$158,475 98
Industrial	1,866,229	2501	466,734 40	2,706,983	2702	731,374 57	326,143	3032	98,872 45
Total	2,734,277	2563	$700,784 13	3,699,563	2929	$1,083,652 69	774,369	3323	$257,348 43
Ohio—									
Domestic	623,399	2857	$178,088 75	756,705	3673	$ 277,911 22	329,809	3643	$120,143 03
Industrial	641,425	2927	187,768 85	1,908,953	3004	573,356 38	271,743	3018	82,020 85
Total	1,264,824	2892	$365,857 60	2,665,658	3193	$ 851,267 60	601,552	3361	$202,163 88

TABLE XII

UNITED FUEL GAS COMPANY, INC.

Domestic and Industrial Gas Sales in M. Cubic Feet in Charleston, W. Va., Huntington, W. Va., and Sundry Cities, Towns, Villages and Communities in West Virginia. Average Rate Charged and Total Amounts Received Year 1920 and 4 Months of 1921 to April 30, inclusive.

YEAR 1920

	Domestic			Industrial		
	M. Cu. Ft.	Rate	Amount	M. Cu. Ft.	Rate	Amount
Charleston	2,158,153	2029	$437,863 57	5,268,584	1521	$801,493 82
Huntington	1,306,672	2130	278,342 22	302,138	1869	56,459 26
Sundry, W. Va	972,471	2295	223,145 20	1,296,941	1685	218,553 14
January 1, 1921 to May 1, 1921						
Charleston	996,558	2024	201,695 60	1,012,794	1538	155,727 78
Huntington	596,254	2121	126,435 90	60,785	1944	11,815 87
Sundry, W. Va	509,744	2302	117,363 05	398,953	1731	69,057 78

TABLE XIII

UNITED FUEL GAS COMPANY, INC.

Total Gas Sales in M. Cubic Feet to Domestic and Industrial Churches, Schools, Etc., Customers Field Operations and to Wholesale Customers Average Rate and Total Amounts Received, Years 1919, 1920 and Four Months of 1921 to April 30, inclusive

	1919			1920			4 Months Ending 4-30-21		
	M. Cu. Ft.	Rate	Amount	M. Cu. Ft.	Rate	Amount	M. Cu. Ft.	Rate	Amount
Domestic	5,690,284	.2018	$1,149,433.04	6,599,400	.2523	$1,665,063.58	2,951,983	.2509	$ 740,797.80
Industrial	8,773,449	.1544	1,354,582.48	11,552,257	.2077	2,399,285.58	2,091,308	.2019	422,301.43
Churches, Schools, etc	137,275	.0945	12,975.24	149,104	.1709	25,474.72	58,272	.1742	10,151.70
Field Operations	721,131	.0859	62,001.84	575,276	.0950	54,645.73	195,158	.1000	19,515.77
Wholesale	36,329,136	.1018	1,700,122.56	32,919,420	.1037	3,414,948.77	11,684,527	.1252	1,463,016.63
Total	51,650,275	.1216	$6,278,115.16	51,795,457	.1459	$7,559,418.38	16,981,248	.1564	$2,655,783.33

TABLE XIV.

UNITED FUEL GAS COMPANY, INC.

Comparison of Sales in M. Cubic Feet for Years Ended December 31, 1918, 1919 and 1920.

	1918	1919	1920
Wholesale Customers	M. Cu. Ft.	M. Cu. Ft.	M. Cu. Ft.
Columbia Gas & Electric Co	8,570,202	7,301,647	10,312,994
Ohio Fuel Supply Co	11,500,964	9,455,428	8,634,633
Central Kentucky Natural Gas Co	1,379,650	1,668,596	1,515,902
Louisville Gas & Electric Co	2,601,584	2,704,920	2,637,474
Portsmouth Gas Company	1,766,074	1,439,085	1,531,301
Hope Natural Gas Company	7,227,560	7,461,440	4,213,906
Pittsburgh & West Virginia Gas Co	7,270,221	6,222,967	4,073,210
Columbian Carbon Co	22,402		
Charleston-Dunbar Natural Gas Co		55,385	
Falling Rock Cannel Coal Co		18,668	
Total Wholesale	40,338,657	36,328,136	32,919,420
Retail Customers			
Ironton, Ohio, Division	2,368,561	1,220,629	2,613,624
City of Ashland	1,591,485	1,471,017	1,895,395
City of Catlettsburg	230,615	211,194	211,139
City of Louisa	67,032	61,594	82,871
Other Ashland, Ky., Division	1,314,239	1,019,476	1,546,809
Spencer Division	613,644	571,106	543,437
City of Charleston	6,797,827	6,795,406	7,510,742
Other Charleston Division	1,151,758	1,252,135	972,680
City of Huntington	1,198,961	1,401,979	1,673,362
Other Huntington Division	1,362,367	1,317,603	1,825,978
Total Retail	16,696,489	15,322,139	18,876,037
Grand Total Sales	57,035,146	51,650,275	51,795,457

TABLE XV

UNITED FUEL GAS COMPANY, INC.

WHOLESALE CUSTOMERS

Names of Customers, Amount of Gas in M. Cubic Feet Sold, Prices Paid by Each, the Average Price Received, and the Total Amount Received, Years 1920-1921

	M. Cubic Feet	Rate	Amount
1919			
Columbia Gas & Elec. Co.	7,201,647	0700	$ 511,115 29
Ohio Fuel Supply Co.	9,455,428	0777	735,083 59
Central Kentucky Natural Gas Co.	1,668,596	1500	250,289 40
Louisville Gas & Elec. Co.	2,704,920	1275	344,936 31
Portsmouth Gas Co.	1,439,085	1950	280,621 60
Hope Natural Gas Co.	7,461,440	1172	874,134 64
Pittsburgh-West Va. Gas Co.	6,222,967	1113	692,739 93
Charleston-Dunbar Nat. Gas Co.	55,385	1820	10,081 72
Falling Rock Cannel Coal Co. Field	18,668	0600	1,120 08
Total	36,328,136	1018	$3,700,122 56
1920			
Columbia Gas & Elec. Co.	10,312,994	0741	764,817 33
Ohio Fuel Supply Co.	8,634,633	0700	604,424 31
*Central Kentucky Natural Gas Co.	1,515,902	1526	231,163 46
**Louisville Gas & Elec. Co.	2,637,474	1441	380,005 09
***Portsmouth Gas Co.	1,531,301	2168	331,983 55
****Hope Natural Gas Co.	4,213,906	1330	560,696 72
****Pittsburgh-West Va. Gas Co.	4,073,210	1330	541,858 21
Total	32,919,420	1037	$3,414,948 77

*Now pays 17c per M. Cubic Feet.

**Now pays 20c per M. Cubic Feet for Excess of 12,000,000 M. Cubic Feet.

***Now pays 30c per M. Cubic Feet for Excess of 12,000,000 M. Cubic Feet.

****Now pays on a sliding scale upward based on daily consumption, from 14c to 18c per M. Cubic Feet.

TABLE XVI

UNITED FUEL GAS COMPANY, INC.

Analysis of Gas Sales January 1st. to December 31st. 1920, Inclusive.

ASHLAND, KY. Exclusive Oakview and Pollard.

Month	1 M and less inc Minimum	2 M less than 3 M	3 M less than 4 M	4 M less than 5 M	5 M less than 6 M	6 M to 10 M inc.	11 M to 20 M inc	Over and Above 20 M	Total
January	57	19	31	34	40	186	763	2,105	3,235
February	85	49	45	33	60	366	1,299	1,304	3,241
March	99	39	45	45	65	410	1,305	1,265	3,272
April	133	66	80	87	97	696	1,550	569	3,278
May	185	130	159	189	250	1,215	951	193	3,272
June	396	308	434	507	449	900	222	51	3,267
July	517	414	464	493	410	795	128	41	3,262
August	557	426	541	474	395	721	125	46	3,285
September	511	358	458	507	455	825	146	54	3,294
October	241	155	180	279	331	1,437	577	118	3,318
November	87	32	59	74	91	585	1,650	770	3,348
December	76	30	46	50	76	403	1,507	1,178	3,366
	2,944	2,006	2,542	2,772	2,719	8,539	10,223	7,694	39,439

TABLE XVII

UNITED FUEL GAS COMPANY, INC.

Analysis of Gas Sales, January 1st, to December 31st, 1920, Inclusive.

LOUISA, KENTUCKY

Month	1 M and less inc. Minimum	2 M less than 3 M	3 M less than 4 M	4 M less than 5 M	5 M less than 6 M	6 M to 10 M inc.	11 M to 20 M inc.	Over and Above 20 M	Total
January	26	8	6	9	6	53	142	216	466
February	33	8	7	10	10	66	175	163	468
March	32	5	6	4	11	65	177	171	470
April	28	9	11	23	14	131	177	74	467
May	19	20	25	25	38	173	116	33	467
June	74	35	43	45	56	173	37	9	472
July	89	56	70	72	50	104	24	7	472
August	94	38	66	50	58	125	36	7	475
September	67	32	49	57	49	157	50	15	476
October	46	22	27	34	39	192	89	28	477
November	25	11	13	18	13	145	180	72	477
December	12	10	12	9	16	86	202	133	480
	565	254	330	355	360	1,470	1,405	928	5,667

TABLE XVIII.

UNITED FUEL GAS COMPANY, INC.

Analysis of Gas Sales, January 1st, to December 31st, 1920, Inclusive.

CATLETTSBURG, KENTUCKY.

Month	1 M and less inc. Minimum	2 M less than 3 M	3 M less than 4 M	4 M less than 5 M	5 M less than 6 M	6 M to 10 M inc.	11 M to 20 M inc.	Over and Above 20 M	Total
January	55	8	8	18	17	143	429	458	1,136
February	50	17	14	29	28	207	492	303	1,140
March	55	14	18	20	12	178	479	365	1,141
April	57	26	32	47	52	364	417	127	1,122
May	75	54	60	63	89	492	256	37	1,126
June	162	98	153	190	181	272	55	15	1,126
July	197	119	198	203	148	219	30	11	1,125
August	184	134	193	182	160	226	30	13	1,122
September	166	97	138	188	178	310	42	9	1,128
October	93	63	72	119	127	519	122	20	1,135
November	32	19	20	24	41	271	539	197	1,143
December	32	16	18	24	27	248	513	271	1,149
	1,158	665	924	1,107	1,060	3,449	3,404	1,826	13,593

TABLE XIX

UNITED FUEL GAS COMPANY, INC.

Summary of Distribution and Commercial Expense—Ashland, Ky., Catlettsburg, Ky., and Louisa, Ky.—By Years 1910 to May 1, 1921.

Includes only the actual amounts expended for local management and superintendence, reading meters, rendering bills, collecting, repairing meters and regulators, connecting and disconnecting meters, etc.

	Ashland	Catlettsburg	Louisa
1910	$ 12,056 97	$ 2,230 60	$ 980 20
1911	9,753 00	2,991 01	1,495 72
1912	9,097 82	3,600 98	1,444 48
1913	13,793 78	7,448 85	1,481 23
1914	10,546 23	3,307 52	1,286 39
1915	8,238 59	3,932 18	1,248 95
1916	9,123 70	4,140 87	1,315 41
1917	18,298 72	3,957 81	1,078 88
1918	14,375 80	4,184 06	1,401 89
1919	20,163 84	5,790 75	1,642 05
1920	22,645 08	6,379 81	3,236 24
1921 to May	8,293 85	1,908 15	1,301 04
Total	$156,387 38	$49,872 59	$17,912 48

TABLE XX.

UNITED FUEL GAS COMPANY, INC.

Summary of Distribution and Commercial Expense
For Year 1920.

Ironton, Ohio	$ 20,709 39
Sundry Ohio	14,596 95
Other Kentucky (Ashland Division, exclusive of Ashland, Catlettsburg and Louisa)	8,664 25
Huntington, West Virginia	45,295 74
Charleston, West Virginia	71,993 77
Spencer, West Virginia	10,737 44
Other West Virginia	32,909 72
Rural	7,851 35
Total	$212,758 61

TABLE XXI

UNITED FUEL GAS COMPANY, INC.

Revenue Derived from Sales of Gas to Retail Consumers in Cities and Towns Exclusive of Ashland, Catlettsburg and Louisa.

	1920
Ironton Division	$ 835,529 12*
Ashland Division (exclusive of Ashland, Catlettsburg and Louisa)	429,578 39
Spencer Division	88,703 68
City of Charleston	1,253,351 00
Balance Charleston Division	171,374 33
City of Huntington	346,214 13
Balance Huntington Division	356,940 72
	$3,481,691 36

*Less $65,018.15 impounded in litigated rate case, hence $770,510.97 only considered as Revenue derived from sales of gas in Ironton, O., Division.

TABLE XXII.

UNITED FUEL GAS COMPANY, INC.

DISTRIBUTION SYSTEM PROPERTY

Summary of Investment by Divisions.

	As of April 30, 1921	As of December 31, 1920
Charleston, W. Va., Distribution Plant, Proper	$ 523,571 74	$ 512,687 07
Charleston, W. Va., Distribution Plant, Outside	116,358 90	113,555 79
Total Charleston Division	$ 639,930 64	$ 626,242 86
Huntington, W. Va., Distribution Plant, Proper	467,388 76	448,811 96
Huntington, W. Va., Distribution Plant, Outside	158,058 10	155,579 11
Total Huntington Division	$ 625,446 86	$ 604,391 07
Total Ironton, Ohio, Division	232,502 12	228,881 93
Total Spencer, W. Va., Division	59,174 41	58,352 56
City of Ashland, Ky.	180,933 45	146,429 97
City of Louisa, Ky.	17,081 14	16,391 32
City of Catlettsburg, Ky.	44,773 43	37,647 49
Other Ashland, Ky., Division	40,747 57	72,465 65
Total Ashland, Ky., Division	$ 283,535 59	$ 272,934 43
Incomplete Construction		2,879 54
Total Investment	$1,840,589 62	$1,793,682 39

TABLE XXIII

UNITED FUEL GAS COMPANY, INC.

Summary of Sales, Operating Expenses and Operating Revenues
For Five Years Ended December 31, 1920

SALES

	Year Ended Dec. 31, 1916	Year Ended Dec. 31, 1917	Year Ended Dec. 31, 1918	Year Ended Dec. 31, 1919	Year Ended Dec. 31, 1920
Sales	$4,065,718 84	$6,775,052 99	$6,656,799 46	$6,271,848 06	$7,494,400 23
Operating Expenses	1,683,224 00	2,054,695 88	2,379,226 13	2,760,289 80	3,439,699 55
Operating Revenues†	2,382,494 84	4,720,357 11	4,277,573 33	3,511,558 26	4,054,700 68

†Exclusive Depreciation and Depletion.

TABLE XXIV

UNITED FUEL GAS COMPANY, INC.

Rates and Charges in Effect May 1, 1921.

ASHLAND DIVISION.

Ashland, Catlettsburg, Russell, Pollard, Louisa, Inez, Warfield, Buchanan' Burnaugh, Wolf Creek, and Rural Districts Along the Pipe Lines in Boyd, Lawrence and Martin Counties:

DOMESTIC SERVICE:

40c per 1,000 cubic feet, discount 5c per 1,000 cubic feet
Minimum monthly charge, 50c.

Greenup, Chinville, Worthington, and Rural Districts Along the Pipe Lines in Greenup County:

DOMESTIC SERVICE:

45c per 1,000 cubic feet; discount 5c per 1,000 cubic feet
Minimum monthly charge, 50c.

Ashland, Catlettsburg, Louisa and Rural Districts Along the Pipe Lines in Boyd and Lawrence Counties:

INDUSTRIAL SERVICE:

First, 500,000 cubic feet consumed in each calendar month 16c per 1,000 cubic feet.

All Over 500,000 cubic feet consumed in each calendar month 31c per 1,000 cubic feet.

Discount: 1c per 1,000 cubic feet.

TABLE XXV.

UNITED GAS FUEL COMPANY, INC.

Rates and Charges in Effect May 1, 1921.

IRONTON DIVISION.

New Boston, Sciotoville and Wheelersburg, Scioto County, Ohio:

DOMESTIC SERVICE:

45c per 1,000 cubic feet; discount 5c per 1,000 feet if paid on or before the 10th of the month following that in which the gas is consumed.

Minimum charge, 50c per month.

New Boston, Scioto County, Ohio:

INDUSTRIAL SERVICE:

First, 500,000 cubic feet, or part thereof, in each calendar month, 41c per 1,000 cubic feet.

All Over 500,000 cubic feet in each calendar month, 31c per 1,000 cubic feet.

Discount: 1c per 1,000 cubic feet if paid on or before the 20th of the month following that in which the gas is consumed.

Coal Grove and Ironton, Lawrence County, Ohio:

DOMESTIC SERVICE:

40c per 1,000 cubic feet; discount of 5c per 1,000 cubic feet if paid on or before the 10th of the month following that in which the gas is consumed.

Minimum charge, 50c per month.

Ironton, Lawrence County, Ohio:

INDUSTRIAL SERVICE:

First, 500,000 cubic feet, or part thereof, in each calendar month, 36c per 1,000 cubic feet.

All Over 500,000 cubic feet in each calendar month, 26c per 1,000 cubic feet.

Discount: 1c per 1,000 cubic feet if paid on or before the 20th of the month following that in which the gas is consumed.

Hanging Rock, Lawrence County, Ohio:

DOMESTIC SERVICE:

45c per 1,000 cubic feet; discount 5c per 1,000 cubic feet if paid on or before the 10th of the month following that in which t gas is consumed.

Minimum charge, 50c per month.

TABLE XXVI

UNITED FUEL GAS COMPANY, INC.

Rates and Charges in Effect May 1, 1921.

WEST VIRGINIA.

		Deduct
City of Charleston:		
Domestic	22c	2c
Industrial—		
First 150,000	21c	1c
Second 150,000	20c	1c
All over 300,000	16c	1c
Kanawha:		
Domestic	28c	2c
Wilson Hollow:		
Domestic	28c	3c
Nitro:		
Domestic	33c	3c
Industrial	35c	1c
Nitro Brick & Tile Co.		
From April 1, 1921 to November 1, 1921, 25c; no discount.		
City of Huntington:		
Domestic	22c	1c
Industrial—		
First 150,000	22c	1c
Second 150,000	19c	1c
All over 300,000	18c	1c
And for the following named cities, towns, villages and communities, to-wit:		
Anna, Bannister, Blue Creek, Cedar Grove, Ceredo, Culloden, Elk View, Fort Gay, Gay, Hurricane, Jordon Creek, Kenova, Kermit, King, Kygor, Lock Seven, McClanahan, Milliken, Newton, Ona, Poca, Quick, Rich Creek, Reedy, Simonville, Three Mile, Walgrove, and Walton:		
Domestic rate per 1,000 cubic feet, 25c; discount 2c.		

TABLE XXVI—Continued.

Rates and Charges in Effect May 1, 1921—West Virginia—Cont'd.		Deduct
Kenova:		
Domestic	25c	1c
Industrial—		
First 150,000	22c	1c
Second 150,000	19c	1c
All over 300,000	18c	1c
Barbourville:		
Domestic	22c	1c
Industrial—		
First 150,000	22c	1c
Second 150,000	19c	1c
All over 300,000	18c	1c
Clendennin:		
Industrial—		
First 100,000	16c	2c
Second 100,000	14c	1c
All over 200,000	12c	1c
Chelyan:		
Domestic	22c	2c
Coalburgh:		
Domestic	22c	2c
Industrial—		
First 150,000	21c	1c
Second 150,000	20c	1c
All over 300,000	16c	1c
East Bank:		
Domestic	22c	2c
Logan:		
Industrial—All over 300,000	13c	1c
Ravenswood:		
Industrial—All over 300,000	13c	1c

TABLE XXVI—Continued

Rates and Charges in Effect May 1, 1921—West Virginia—Cont'd.

Spencer:		
Domestic	22c	2c
Industrial—		
First 150,000	17c	1c
Second 150,000	15c	1c
All over 300,000	13c	1c
Williamson:		
Industrial—All over 300,000	13c	1c

All rural districts in the counties of Cabell, Lincoln Kanawha, Roane, Putnam, Wayne, Jackson and Mingo, where present rate for domestic service is 25 cents or less per 1,000 cubic feet, domestic 25 cents; discount 2 cents.

The figures given above represent the quantity of gas measured in thousand cubic feet and the rate per 1,000 and discount allowed for payment within the discount period. Except as herein otherwise expressly provided, the Company will show a discount upon all monthly bills in the case of domestic consumers of 2 cents per 1,000 cubic feet for payment on or before the 10th day of the month for gas consumed during the preceding month; and in the case of industrial consumers, of 1 cent per 1,000 cubic feet for payment on or before the 20th day of the month for all gas consumed during the preceding month.

The Company will charge and collect a minimum of 50 cents per month for each domestic consumer, whether the amount of gas used at the rates herein fixed equals that sum or not.

TABLE XXVII

UNITED FUEL GAS COMPANY, INC.

Gas Purchase Contracts and Prices Payable per M. Cubic Feet for Gas to be Purchased Thereunder.

1 October	21st, 1915	11/30/15 to 11/30/17	03
		11/30/17 to 11/30/19	03½
		11/30/19 to 11/30/21	04
		11/30/21 to thereafter	05
2 January	22d, 1913	8/11/13 to 8/11/15	03
		8/11/15 to 8/11/17	03½
		8/11/17 to 8/11/19	04
		8/11/19 to thereafter	05
3 March	11th, 1920	Entire Period	05
4 September	4th, 1916	4/18/17 to 4/18/19	03
		4/18/19 to 4/18/23	03½
		4/18/23 to 4/18/27	04
5 January	22d, 1913	8/13/13 to 8/13/15	03
		8/13/15 to 8/13/17	03½
		8/13/17 to 8/13/19	04
		8/13/19 to thereafter	05
6 October	27th, 1913	To May 1st, 1918	03
		To November 30th, 1920	04
		Thereafter	06
7 July	15th, 1916	To August 11th, 1917	03½
		8/11/17 to 8/11/19	04
		8/11/19 to thereafter	05
8 October	14th, 1909	To 6/30/18	03
		7/1/18 to 10/1/19	04
		10/1/19 to thereafter	05
9 May	27th, 1910	To 6/30/18	03
		7/1/18 to 6/1/20	04
		6/1/20 to 7/1/22	04½
		7/1/22 to thereafter	05
10 March	15th, 1920	7/28/20 to 1/28/23	05
		1/28/23 to 7/28/25	05½
		7/28/25 to 7/28/28	06
		7/28/28 to thereafter	07
11 January	13th, 1920	5/8/20 to 5/8/21	04
		5/8/21 to 5/8/25	05
12 November	27th, 1915	12/1/15 to 12/1/18	08½
		12/1/18 to 12/1/21	04
		All wells drilled after Jan. 1, 1919	05

TABLE XXVII—Continued.

Gas Purchase Contracts and Prices Payable—Continued.

13 November	26th, 1915	12/1/15 to 12/1/18	03½
		12/1/18 to 12/1/21	04
		All wells drilled after Jan. 1, 1919	05
14 November	24th, 1917	12/21/17 to 12/21/18	03½
		12/21/18 to 12/21/20	04
		12/21/20 to 12/21/22 and thereafter	05
15 May	16th, 1914	To Janunary 1st, 1920	03
		Thereafter	05
16 May	29th, 1913	To November 1st, 1914	04
		To November 1st, 1915	04½
		To November 1st, 1916	05
		Thereafter	06
17 January	4th, 1915	2/1/15 to 1/31/17	03
		2/1/17 to 1/1/19	03½
		1/1/19 to thereafter	06
18 May	15th, 1913	11/30/13 to 11/30/15	03
		11/30/15 to 11/30/17	03½
		11/30/17 to 11/30/19	04
		11/30/19 to thereafter	05
19 December	1919	To December 1st, 1919	05
		Thereafter	06½
20 July	19th, 1917	11/27/17 to 11/27/19	03
		11/27/19 to 11/27/21	0
		11/27/21 to 11/27/23	04
		11/27/23 to 11/27/25	04½
		11/27/25 to thereafter	05
21 January	27th, 1917	3/10/17 to 3/10/19	03
		3/10/19 to 3/10/23	03½
		3/10/23 to thereafter	04
22 February	20th, 1918	3/1/18 to 8/11/19	04
		Thereafter	05
23 March	1st, 1919	Sliding Scale Upwards Present Price	
		Minimum 06	08
24 February	25th, 1920	12/30/20 to 12/29/21	03½
		12/20/21 to 12/29/23	04
		12/30/23 to 12/29/26	05
		12/30/26 to 12/29/28	06
25 April	4th, 1918	Sliding Scale upward each day	
		1st Million	06¼
		2nd Million	06¾
		3rd Million	07¼
		All over	08

TABLE XXVII—Continued.

Gas Purchase Contracts and Prices Payable—Continued.

26 June	12th, 1920	Minimum	06
		Present Price—Maximum	07
27 September	1st, 1920	Entire Period	06
28 January	13th, 1920	9 9 20 to 9 9 22	04½
		9 9 22 to 9 9 23	05½
		9 9 23 to thereafter	06
29 May	29th, 1912	To August 14th, 1919	03
		Thereafter	05
30 February	14th, 1918	To August 14th, 1919	04
		Thereafter	05
13 Contracts		Fixed Price	03
5 Contracts		Changed from 3c to 5c fixed price	05
4 Contracts		Fixed Price	04
3 Contracts		Fixed Price	05
56 April	5th, 1921	Minimum Rate	07½
		Increase in proportion to the increase in U. F. G. Co.'s Rates.	

It will be noted that considerable variation in price per M. Cubic Feet prevails as between the several contracts for purchase, such variation depending upon the volume of gas produced by the wells, the location of the wells with reference to the Company's pipe lines, etc.

With respect to the contract prices paid to the private well owners or contractors consideration must be given to the fact, as a rule, these sellers or contractors are under no obligation to develop and drill their property and to deliver any given amount or a minimum amount of gas. That these well owners or operators have no investment in reserve acreage and generally merely treat the gas sold as subsidiary to their oil operations. Furthermore, because the wells and property of these contractors usually are adjacent to the wells and property of the gas buyers, it frequently happens that the gas so purchased is drained from the wells of the buyers, and which otherwise, would be pulled from his own wells.

Consideration must also be given to the expenses connected with the purchase of gas such as maintaining measuring stations, lateral lines, getting the gas to the compressing stations, etc., not to mention the investment and expenses necessary to the utilization of the gas by the consumer.

TABLE XXVIII.

UNITED FUEL GAS COMPANY, INC.

Gas Purchased, the Cost of Same and the Average Rate Paid for Each Year.

Period	M. Cu. Ft. Purchased	Cost of Gas Purchased	Average Cost Per M. Cu. Ft. in Cents
1910	2,316,671	$ 81,080 71	3 53
1911	4,003,352	130,902 01	3 26
1912	4,592,212	147,436 61	3 21
1913	5,394,022	170,801 15	3 16
1914	8,235,983	253,959 58	3 08
1915	10,015,803	316,793 24	3 16
1916	10,386,222	335,118 71	3 19
1917	12,684,751	404,296 70	3 30
1918	14,053 007	464,008 49	3 58
1919	12,086,690	450,872 28	3 73
1920	10,284,950	440,623 08	4 29

TABLE XXIX.

UNITED FUEL GAS COMPANY, INC.

Operated and Unoperated Acreage* and Cost Thereof as of December 31, 1920, and April 30, 1921.

December 31, 1920

OPERATED ACREAGE	Acreage	Value
Leaseholds:		
Oil and Gas	36,910 88	$ 977,197 34
Gas (other parties own oil)	29,507 31	968,184 44
Fee Holdings:		
Oil and Gas	1,892 11	74,926 28
Gas	621 73	6,209 17
Minerals	42 50	453 00
Absolute	225 00	575 00
	69,199 53	$2,027,545 23
UNOPERATED ACREAGE		
Leaseholds:		
Oil and Gas	458,107 57	$1,998,713 70
Gas (other parties own oil)	265,084 11	2,247,879 23
Oil (other parties own gas)	533 00	95 10
Miscellaneous	4 59	1,119 65
Fee Holdings:		
Oil and Gas	14,591 78	415,223 38
Gas	979 25	5,562 58
Minerals	13,286 00	49,224 52
Absolute	7,775 84	107,034 36
Surface	55 70	21,198 09
	760,417 84	$4,846,050 61

TABLE XXIX—Continued

Operated and Unoperated Acreage* and Cost Thereof—Cont'd.

April 30, 1921

OPERATED ACREAGE

Leaseholds:		
Oil and Gas	37,614 67	$ 984,913 86
Gas (other parties own oil)	29,504 56	972,403 90
Fee Holdings:		
Oil and Gas	2,015 39	80,831 32
Gas	621 73	6,209 17
Minerals	42 50	453 00
Absolute	225 00	575 00
	70,023 85	$2,045,386 25

UNOPERATED ACREAGE

Leaseholds:		
Oil and Gas	476,532 44	$1,991,115 06
Gas (other parties own oil)	263,360 72	2,212,435 50
Oil (other parties own gas)	533 00	95 10
Miscellaneous	4 59	1 09 56
Fee Holdings:		
Oil and Gas	14,818 21	426,463 90
Gas	979 25	5,562 58
Minerals	13,359 00	49,724 52
Absolute	7,775 84	107,236 36
Surface	55 59	20,098 09
	777,418 66	$4,813,840 67

OPERATED ACREAGE

SUMMARY

Location	December 31, 1920 Acres	December 31, 1920 Value	April 30, 1921 Acres	April 30, 1921 Value
Kentucky	4,254 10	$ 4,331 76	4,254 10	$ 4,331 76
West Virginia	64,945 43	2,023,213 47	65,769 75	2,041,054 49
Ohio				
Total	69,199 53	$2,027,545 23	70,023 85	$2,045,386 25

TABLE XXIR

Operated and Unoperated Acreage* and Cost Thereof – Cont'd.

UNOPERATED ACREAGE.

Location	Acres	Value	Acres	Value
Kentucky	78,834 29	$ 38,901 97	80,986 29	$ 38,733 69
West Virginia	681,583 41	4,804,467 10	696,432 23	4,772,434 53
Ohio	14	2,681 54	14	2,672 45
Total	760,417 84	$4,846,050 61	777,418 66	$4,813,840 67

*When a lease is taken, the amount paid therefor as bonus or advanced rental is charged to a capital account, designated "Gas Investment" (Unoperated Acreage). When a lease is developed, it is transferred from the capital account "Gas Investment" (Unoperated Acreage), to "Gas Investment" (Operated Acreage). The Company endeavors to transfer from the unoperated to the operated account 100 acres per gas well. The price used in the transfer is on the same proportion, that is, as the cost of 100 acres applies to the total cost of acquisition. This method is followed in all large tracts. In a small tract, however, and where a tract exceeds 100 acres, but is not large enough to drill more than one well, the entire acreage is transferred. The price used in this case is at the cost of acquisition. When leaseholds are surrendered, the unoperated acreage account is credited at the cost at which it stands in said account.

Investment in Operated Acreage as of December 31, 1920—per acre	$29 30
Investment in Unoperated Acreage as of December 31, 1920—per acre	6 39

Rentals and royalties subsequently accruing on operated and unoperated leaseholds are charged to Gas Operating Expenses (Production). When a well which had originally been charged to gas, and then produces oil, the cost thereof is transferred from Gas Investment to Oil Investment, provided the gas has about played out.

TABLE XXX.

UNITED FUEL GAS COMPANY, INC.

Operated Acreage, Operated Gas Wells*, and Average Number of Acres Operated per Gas Well for the Period December 31, 1911 to May 31, 1921.

	Number of Acres	Number of Wells	Number of Acres per Well
December 31, 1911	33,626 13	287	117 2
" 31, 1912	29,315 85	320	91 6
" 31, 1913	35,748 00	391	91 4
" 31, 1914	41,727 57	450 5	92 7
" 31, 1915	46,450 32	507	91 6
" 31, 1916	52,348 94	571 6	91 5
" 31, 1917	61,019 26	640	95 4
" 31, 1918	64,793 79	656 4	98 8
" 31, 1919	66,640 70	656 8	101 5
" 31, 1920	69,199 53	689 7	100 3
May 31, 1921	70,311 60	703 7	99 9

*Charges against a particular well when being drilled is carried temporarily in a suspense account until completed. If the well proves to be gas, it is transferred to the Gas Investment Account. If it proves to be oil, it is transferred to the Oil Investment Account. In a case where a well produces both oil and gas in a comparatively equal quantity, one-half of the cost is charged to Gas Investment and one-half to Oil Investment. In a case like that just mentioned, the investment in leaseholds and the carrying charges thereof are not transferred from the Gas Investment to the Oil Investment Accounts.

TABLE XXXI.

UNITED FUEL GAS COMPANY, INC.

General Balance Sheet December 31, 1918.

ASSETS	1918		Increase or Decrease
Investment:			
Plant Account for Production, Transportation and Distribution of Gas and Production of Oil, Gasoline, etc	$64,510,949.20*	I	$41,236,245.82*
Suspense Construction Accounts	665,131.25	D	4,460.40
Securities and Stock Owned	173,591.25	I	96,399.00
Total Investment	$65,349,671.70	I	$41,328,184.42
Current Assets:			
Cash	$ 669,211.87	I	$ 173,567.43
Material and Supplies	535,480.59	D	109,596.11
Bills Receivable	8,903.44	D	35,475.19
Accounts Receivable	1,151,984.61	D	317,336.26
Cash Reserve for Bonds in Escrow		D	4,600.00
Treasury Bonds	1,915,000.00	I	1,426,000.00
Total Current Assets	$ 4,280,580.51	I	$ 1,132,559.87
Deferred Assets:			
Prepaid Insurance Account	$ 31,178.27	I	$ 18,036.43
Prepaid Rental Reserve	150,000.00		
Total Deferred Assets	$ 181,178.27	I	$ 18,036.43
Grand Total	$69,811,430.48	I	$42,478,780.72
LIABILITIES			
Capital Stock	$10,000,000.00		
First Mortgage Bonds 6%	12,337,000.00	I	$ 1,426,000.00
	$22,337,000.00	I	$ 1,426,000.00
Current Liabilities:			
Accounts Payable	$ 260,693.44	I	$ 52,461.28
Unmatured Accrued Accounts (including Federal Taxes)	1,205,490.54	D	518,655.08
Dividends	900,000.00		
Total Current Liabilities	$ 2,366,183.98	D	$ 466,198.80
Deferred Liabilities:			
Security Deposits	$ 42,085.00	I	$ 7,118.25
Unclaimed Accounts	4,952.46	I	713.60
Total Deferred Liabilities	$ 47,037.46	I	$ 7,831.85
Depreciation and Depletion Reserve	5,055,964.19	I	3,601,689.99
Corporate Surplus	40,005,244.85	I	37,909,452.68
Grand Total	$69,811,430.48	I	$42,478,780.72

*Includes $31,778,111.42 book entry increase of Natural Gas Investment on account of appraisal.

TABLE XXXII.

UNITED FUEL GAS COMPANY, INC.

General Balance Sheet December 31, 1919.

ASSETS	1919		Increase or Decrease
Investment:			
Plant Account for Production, Transportation and Distribution of Gas and Production of Oil, Gasoline, etc	$65,917,464.82	*I	$ 1,406,515.62
Suspense Construction Accounts	332,800.79	*D	332,330.46
Securities and Stock Owned	288,391.25	I	114,800.00
Total Investment	$65,538,656.86	I	$ 1,188,985.16
Current Assets:			
Cash	$ 738,700.55	I	$ 69,488.68
Material and Supplies	736,246.12	I	200,765.53
Bills Receivable	15,501.84	I	6,598.40
Accounts Receivable	1,532,138.65	I	380,154.04
Treasury Bonds	3,023,000.00	I	1,108,000.00
Total Current Assets	$ 6,045,587.16	I	$ 1,765,006.65
Deferred Assets:			
Prepaid Insurance Account	$ 47,396.99	I	$ 16,218.72
Prepaid Rental Reserve	171,000.00	I	21,000.00
Total Deferred Assets	$ 218,396.99	I	$ 37,218.72
Grand Total	$72,802,641.01	I	$ 2,991,210.53
LIABILITIES			
Capital Stock	$10,000,000.00		
First Mortgage Bonds 6%	13,470,000.00	I	$ 1,133,000.00
	$23,470,000.00	I	$ 1,133,000.00
Current Liabilities:			
Accounts Payable	$ 281,622.43	I	$ 20,928.99
Unmatured Accrued Accounts (including Federal Taxes)	776,654.45	D	428,836.09
Dividends	1,150,000.00	I	250,000.00
Total Current Liabilities	$ 2,208,276.88	D	$ 157,907.10
Deferred Liabilities:			
Security Deposits	$ 48,580.00	I	$ 6,495.00
Unclaimed Accounts	5,938.99	I	986.53
Total Deferred Liabilities	$ 54,518.99	I	$ 7,481.53
Depreciation and Depletion Reserve	$ 8,846,407.60	I	$ 3,790,443.41
Corporate Surplus	38,223,437.54	D	1,781,807.31
Grand Total	$72,802,641.01	I	$ 2,991,210.53

*I—Increase.
*D—Decrease.

TABLE XXXIII.

UNITED FUEL GAS COMPANY, INC.

General Balance Sheet December 31, 1920.

ASSETS	1920		Increase or Decrease
Investment:			
Plant Account for Production, Transportation and Distribution of Natural Gas, and Production of Oil, Gasoline, etc	$67,988,171.23	*I	$ 2,070,706.41
Suspense Construction Accounts	511,080.96	I	178,280.17
Securities and Stock Owned	366,056.70	I	77,665.45
Total Investment	$68,865,308.89	I	$ 2,326,652.03
Current Assets:			
Cash	$ 610,574.84	*D	$ 128,125.71
Material and Supplies	836,845.50	I	100,599.38
Bills Receivable	137,724.17	I	122,222.33
Accounts Receivable	1,733,038.25	I	200,899.60
Treasury Bonds	4,239,000.00	I	1,216,000.00
Total Current Assets	$ 7,557,182.76	I	$ 1,511,595.60
Deferred Assets:			
Prepaid Rental Reserve	$ 159,000.00	D	$ 12,000.00
Prepaid Accounts	94,043.25	I	46,646.26
Total Deferred Assets	$ 253,043.25	I	$ 34,646.26
Grand Total	$76,675,534.90	I	$ 3,872,893.89
LIABILITIES			
Capital Stock	$30,000,000.00	I	$20,000,000.00
First Mortgage Bonds 6%	14,686,000.00	I	1,216,000.00
	$44,686,000.00	I	$21,216,000.00
Current Liabilities:			
Accounts Payable	$ 410,804.59	I	$ 129,182.16
Unmatured Accrued Accounts (including Federal Taxes)	1,488,443.29	I	711,788.84
Dividends	1,200,000.00	I	50,000.00
Total Current Liabilities	$ 3,099,247.88	I	$ 890,971.00
Deferred Liabilities:			
Security Deposits	$ 68,470.00	I	$ 19,890.00
Unclaimed Accounts	6,569.30	I	630.31
Total Deferred Liabilities	$ 75,039.30	I	$ 20,520.31
Depletion and Depreciation Reserve	12,833,558.15	I	3,987,150.55
Corporate Surplus	15,981,689.57	D	22,241,747.97
Grand Total	$76,675,534.90	I	$ 3,872,893.89

*I—Increase.
*D—Decrease.

TABLE XXXIV.

UNITED FUEL GAS COMPANY, INC.
General Balance Sheet April 30, 1921.

ASSETS	1921		Increase or Decrease
Investment:			
Plant Account for Production, Transportation and Distribution of Natural Gas, and Production of Oil, Gasoline, etc	$68,551,383.34	*I	$ 563,212.11
Suspense Construction Accounts	431,066.47	*D	80,014.49
Securities and Stock Owned	366,806.70	I	750.00
Total Investment	$69,349,256.51	I	$ 483,947.62
Current Assets:			
Cash	$ 1,931,362.14	I	$ 1,320,787.30
Material and Supplies	801,091.98	D	35,753.52
Bills Receivable	31,517.06	D	106,207.11
Accounts Receivable	1,165,507.28	D	567,530.97
Treasury Bonds	4,553,000.00	I	314,000.00
Total Current Assets	$ 8,482,478.46	I	$ 925,295.70
Contingent Fund	31,766.33		
Deferred Assets:			
Prepaid Insurance Account	$ 59,632.25	D	$ 2,644.67
Prepaid Rental Reserve	153,000.00	D	6,000.00
Prepaid Taxes	4,115.10	I	4,115.10
Total Deferred Assets	$ 216,747.35	D	$ 4,529.57
Grand Total	$78,080,248.65	I	$ 1,404,713.75
LIABILITIES			
Capital Stock	$30,000,000.00		
First Mortgage Bonds 6%	15,000,000.00	I	$ 314,000.00
	$45,000,000.00	I	$ 314,000.00
Reserve for Sinking Fund	75,450.56	I	75,450.56
Current Liabilities:			
Accounts Payable	$ 261,136.29	D	$ 149,668.30
Unmatured Accrued Accounts	1,244,355.44	D	172,802.60
Dividends	1,200,000.00		
Total Current Liabilities	$ 2,705,491.73	D	$ 322,470.90
Contingent Account	100,006.30	I	28,721.05
Deferred Liabilities:			
Security Deposits	$ 78,715.00	I	$ 10,245.00
Unclaimed Accounts	6,555.97	D	13.33
Total Deferred Liabilities	$ 85,270.97	I	$ 10,231.67
Depletion and Depreciation Reserve	12,833,558.15		
Corporate Surplus	17,280,470.94	I	1,298,781.37
Grand Total	$78,080,248.65	I	$ 1,404,713.75

* I—Increase.
*D—Decrease.

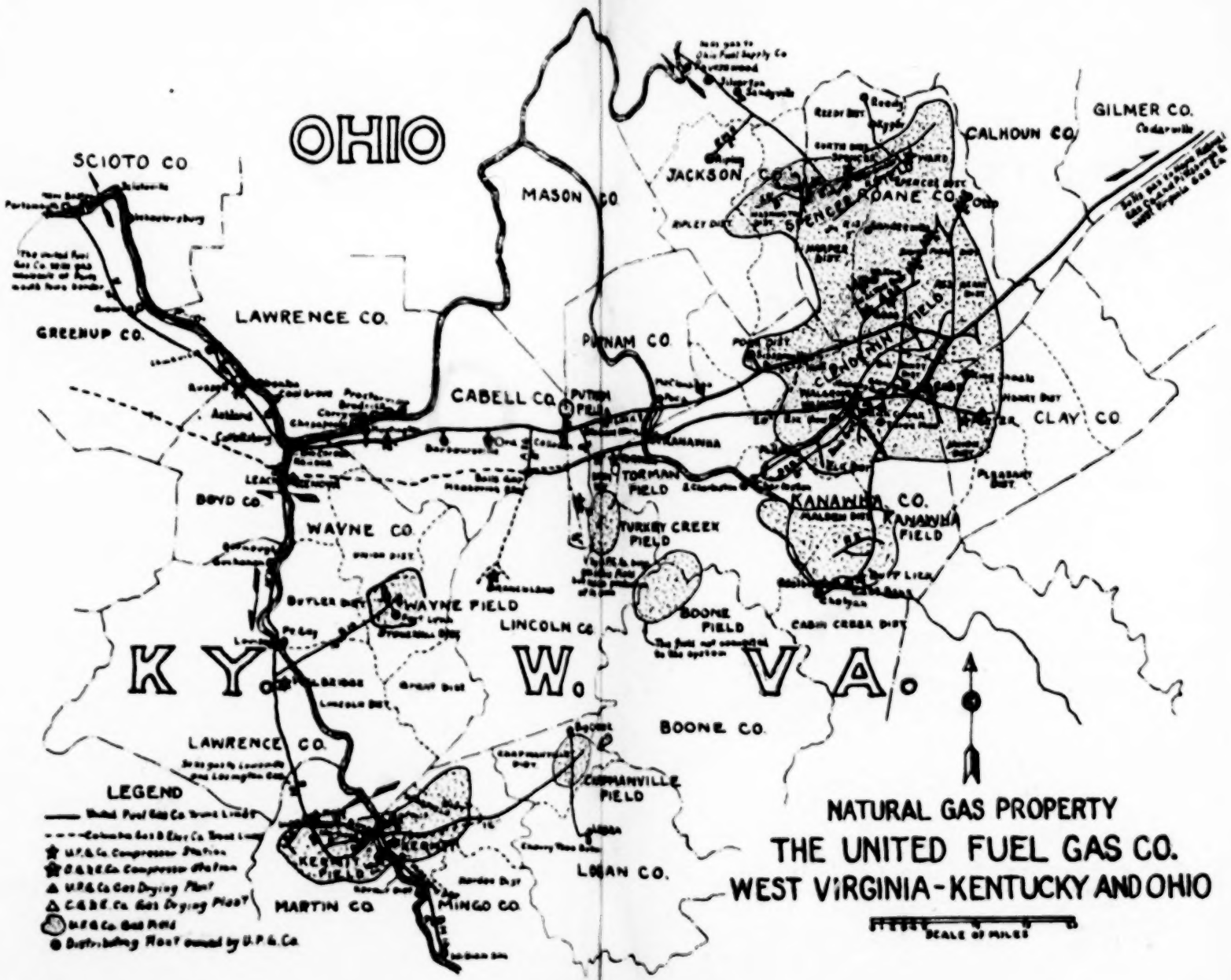
TABLE XXXV.

UNITED FUEL GAS COMPANY, INC.

Cash and Stock Dividends Declared to July 31, 1921.

Date Declared	Per Cent	Capital Stock	Amount	Total by Years
1916		CASH DIVIDENDS		
December	6	$ 9,000,000.00	$ 540,000.00	$ 2,070,000.00
December	17	9,000,000.00	1,530,000.00	
1917				
March 31	10	$ 9,000,000.00	$ 900,000.00	
June 29	9	10,000,000.00	900,000.00	
October 18	9	10,000,000.00	900,000.00	
December 28	9	10,000,000.00	900,000.00	3,600,000.00
1918				
April 22	9	$10,000,000.00	$ 900,000.00	
July 17	9	10,000,000.00	900,000.00	
October 18	9	10,000,000.00	900,000.00	
December 30	9	10,000,000.00	900,000.00	3,600,000.00
1919				
April 21	9	$10,000,000.00	$ 900,000.00	
July 9	9	10,000,000.00	900,000.00	
October 15	9	10,000,000.00	900,000.00	
December 30	11½	10,000,000.00	1,150,000.00	3,850,000.00
1920				
April 8	4	$30,000,000.00	$ 1,200,000.00	
July 19	4	30,000,000.00	1,200,000.00	
October 26	4	30,000,000.00	1,200,000.00	
November 30	4	30,000,000.00	1,200,000.00	4,800,000.00
1921				
April 20	4	$30,000,000.00	$ 1,200,000.00	
June 21	4	30,000,000.00	1,200,000.00	2,400,000.00
Total Cash Dividends Paid				$20,320,000.00
		STOCK DIVIDENDS		
April 19, 1917			$ 1,000,000.00	
*April 8, 1920			20,000,000.00	
Total Stock Dividend Paid				$21,000,000.00
Grand Total Cash and Stock Dividends Paid				$41,320,000.00

*This increase partially capitalizes part of the appraisal of December 31, 1918.


OHIO
SCIOTO CO
MASON CO
JACKSON CO
CALHOUN CO
GILMER CO.
ROANE CO
LAWRENCE CO.
GREENUP CO.
PUTNAM CO
CABELL CO
PUTNA FIELD
CLAY CO
TORMAN FIELD
KANAWHA CO.
KANAWHA FIELD
BOYD CO
WAYNE CO
TURKEY CREEK FIELD
WAYNE FIELD
BOONE FIELD
LINCOLN CO
K Y
W. V A.
BOONE CO.
LAWRENCE CO.
CHAPMANVILLE FIELD
LOGAN CO.
MARTIN CO
MINGO CO
LEGEND
NATURAL GAS PROPERTY
THE UNITED FUEL GAS CO.
WEST VIRGINIA - KENTUCKY AND OHIO
SCALE OF MILES

No. 3436

IN THE

DISTRICT COURT

OF THE

UNITED STATES

FOR THE EASTERN DISTRICT OF KENTUCKY

UNITED FUEL GAS COMPANY, A CORPORATION, AND WARFIELD NATURAL GAS COMPANY, A CORPORATION, Plaintiffs, vs. THE RAILROAD COMMISSION OF KENTUCKY, FRANK N. BURNS, OSCAR VEST AND ISAAC WILDER, MEMBERS OF AND CONSTITUTING SAID THE RAILROAD COMMISSION, AND THOMAS B. McGREGOR, ATTORNEY GENERAL OF THE STATE OF KENTUCKY, Defendants.	In Equity

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EXHIBIT "E" WITH BILL

Exhibit E—2.

BEFORE THE

RAILROAD COMMISSION

OF

KENTUCKY

WARFIELD NATURAL GAS COMPANY, A CORPORATION OF KENTUCKY,
Petitioner,

vs.

CITY OF CATLETTSBURG, CITY OF ASHLAND AND CITY OF LOUISA, EACH A MUNICIPAL CORPORATION OF KENTUCKY
Defendants.

Petition

TO THE RAILROAD COMMISSION OF THE STATE OF KENTUCKY:

Your petitioner, Warfield Natural Gas Company, respectfully represents that it is a corporation created, organized and existing under the laws of the State of Kentucky, having recently purchased and acquired of United Fuel Gas Company, a corporation of West Virginia, all of the property at the time of such purchase owned by said latter Company in the State of Kentucky, the same having been conveyed to petitioner by the deed of said United Fuel Gas Company bearing date the 28th day of June, 1923, and the property so acquired by petitioner con-

sists in part of natural gas pipe lines extending from the State of West Virginia into the State of Kentucky, and crossing the northeastern part of said State of Kentucky into the State of Ohio, heretofore used in part for the transportation of natural gas from the State of West Virginia into the State of Ohio, for sale and consumption in the latter State, and in part for the transportation of natural gas from the State of West Virginia into said State of Kentucky, for sale and consumption in said last mentioned State, and that since the acquisition of said property by your petitioner the said pipe lines have been used as theretofore by the predecessor of petitioner, for the transportation and sale of gas in both said States of Kentucky and Ohio.

Your petitioner further shows as follows:

FIRST—That on or about the 28th day of April, 1920, the defendant the City of Catlettsburg filed with this Commission its complaint against United Fuel Gas Company, said predecessor of petitioner, averring that the rate then being charged by said United Fuel Gas Company to domestic consumers in said city, for natural gas furnished by said Company, namely, the rate of 40 cents per thousand cubic feet, with a discount of 5 cents per thousand for prompt payment, was unreasonable, unjust and extortionate, and praying that the same be reduced by an order of this Commission; that thereafter the defendants the Cities of Ashland and Louisa filed intervening petitions, making substantially the same averments with respect to the natural gas furnished to domestic consumers within their respective limits by said United Fuel Gas Company, with a similar prayer for an order reducing such rates.

Said United Fuel Gas Company, in reply to said complaints, filed its several motions to dismiss the same, and its answer thereto, and testimony was taken upon the issues so presented and this Commission thereafter, to-wit, on the 18th day of January, 1922, ordered a reduction to be made in the rates charged in said three cities to 80% of the rates then being charged. Promptly after said

order had been made and entered by this Commission, said United Fuel Gas Company, on or about the 25th day of January, 1922, filed with the Commission its petition for a rehearing of said proceeding, and praying that said order of January 18, 1922, should be revoked, set aside and held for naught, for the reasons that the said order deprived said United Fuel Gas Company of its liberty and of its property without due process of law, and denied to it the equal protection of the laws, contrary to the Fourteenth Amendment of the Constitution of the United States, in that it prescribed a maximum rate which said Company might charge for natural gas in each of said three cities, which maximum rate woud not afford a fair or adequate return on the value of said company's property used and useful in such service, and which maximum rate so prescribed was less than the reasonable value of the service so rendered, and for the further reason that said order and the findings of fact embodied in the same, were contrary to the law and the evidence.

This Commission, however, denied said petition for rehearing and refused to vacate or set aside its said order. Whereupon said United Fuel Gas Company, in obedience to said order, but at all times denying the validity, reasonableness or legality thereof, reduced the rates then being charged by it to domestic consumers in said three cities, and at all times thereafter, until it sold said property, charged to said consumers in said three cities for natural gas only 80% of the rate formerly charged; but, as hereinbefore set forth, said United Fuel Gas Company, on the 28th day of June, 1923, sold and conveyed to this petitioner all of the property then owned by it in the State of Kentucky, and said United Fuel Gas Company, after said conveyance, ceased to do any business whatsoever in said State of Kentucky and has withdrawn from said State.

SECOND—Your petitioner further shows that in connection with the purchase of said property from said United Fuel Gas Company on the 28th day of June, 1923, it made further arrangement and entered into a contract

with said United Fuel Gas Company by which said United Fuel Gas Company agreed to sell and the petitioner agreed to purchase, at a point in West Virginia near the boundary line between said State and the State of Kentucky, such quantities of natural gas as said United Fuel Gas Company might have available for sale at said delivery point, not exceeding the quantity, from time to time, which petitioner might desire to purchase for re-sale to consumers in said Cities of Ashland, Catlettsburg and Louisa, and elsewhere in the State of Kentucky, and the price which your petitioner agreed to pay for such gas during the year commencing July 1, 1923, was and is 30 cents per thousand cubic feet, and during subsequent years at a price to be fixed by arbitration, if not by agreement, it being contemplated by the parties to said contract that the constant tendency in the price of natural gas would be to increase, due to the failing supply thereof and the increased cost of its production and transportation.

On or about the 28th day of June, 1923, petitioner filed with this Commission a schedule of the rates which it would charge for natural gas on and after August 1, 1923, in said Cities of Ashland, Catlettsburg and Louisa, as well as in other localities in the State of Kentucky previously supplied by said United Fuel Gas Company, and petitioner, at or about the same time and more than thirty days before the 1st day of August, 1923, gave public notice of the rates which it would charge on and after August 1, 1923, and filed with the Recorder of each of said municipalities a copy of said schedule so filed with this Commission.

Shortly thereafter, to-wit, on the 11th day of July, 1923, said United Fuel Gas Company filed with this Commission its motion to revoke and set aside the order hereinbefore mentioned as made by this Commission on the 18th day of January, 1922, reducing the rates which might be charged by said United Fuel Gas Company in said Cities of Ashland, Catlettsburg and Louisa, and filed in support of said motion its statement showing that it had conveyed to this petitioner all of its property in the State of Kentucky, by deed of the 28th day of June, 1923, and that this peti-

tioner had, on or before the 30th day of June, 1923, filed with this Commission a printed schedule of the rates which petitioner would charge for natural gas in said three cities on and after the 1st day of August, 1923, and stating further that said United Fuel Gas Company had withdrawn from the State of Kentucky and was no longer engaged in business of any character whatsoever therein; but your petitioner is advised that this Commission has not acted upon said motion and has not modified, vacated or set aside its order of January 18, 1922.

THIRD—Your petitioner is advised, and therefore avers, that the lawful rate which it should charge and is entitled to charge for natural gas furnished to domestic consumers in said three Cities of Ashland, Catlettsburg and Louisa, on and after the 1st day of August, 1923, is the rate of 45 cents per thousand cubic feet, with a discount of 5 cents per thousand for prompt payment, as shown in the schedule filed with this Commission by your petitioner in the latter part of June, 1923, and that the same will continue to be the lawful rate until such time as it may be changed by proper notice; but it is claimed by the authorized representatives of said three municipalities that the order entered by this Commission on January 18, 1922, reducing the rate which might be charged by your petitioner's predecessor in the conduct of said business, remains effective as against your petitioner and limits the rate which your petitioner may charge for such natural gas, in the localities aforesaid, to the maximum prescribed by said order. Considerable publicity has been given to such claim of the representatives of said cities, and the customers of your petitioner are left in doubt as to what is the lawful rate which they may be charged, and many of them are refusing and will continue to refuse to pay to your petitioner the lawful rate established by its schedule filed with this Commission, and such refusal on the part of its customers will require that your petitioner, in carrying out its lawful promulgated rules governing service to its domestic consumers, discontinue service to patrons who refuse to pay the law-

ful rate, thereby causing great public inconvenience and great confusion and embarrassment to your petitioner in the conduct of its business, unless and until said order of the 28th day of January, 1922, shall be modified, vacated or set aside.

In this connection, your petitioner expressly avers that the reduced rates prescribed by said order of this Commission on January 18, 1922, if operative upon this petitioner, will be wholly unjust, unreasonable and confiscatory, and that the net receipts which your petitioner will derive from the service of natural gas at the reduced rates prescribed by said order will not be in excess of 3% annually, if any profit whatsoever, as a rate of return upon the property of your petitioner necessary and used in the furnishing of such service, and will deprive your petitioner of its property without due process of law, contrary to the Fourteenth Amendment of the Constitution of the United States; that no rate for natural gas to domestic consumers at this time being supplied by petitioner in said cities of Ashland, Catlettsburg and Louisa, less than a rate of 45 cents per thousand cubic feet, with a discount of 5 cents per thousand for prompt payment, being that filed by your petitioner with this Commission, would be just or reasonable to petitioner, and that an even higher rate than that now filed by your petitioner with this Commission will, in the not remote future, become necessary in order to be compensatory to your petitioner, so far as now can be foreseen, due to the rapid and constant increase in the cost of producing from the earth, transporting and furnishing to consumers natural gas.

Your petitioner avers that the natural gas which it is able to obtain for the service of the inhabitants of said municipalities is all produced in the State of West Virginia, collected by said United Fuel Gas Company from numerous wells in said State at great distances from each other, some of which are approximately 80 miles from the point of delivery of said gas to petitioner; that the average quantity obtainable from each well is constantly growing less, so that a greater number of wells is necessary for delivering

the same quantity as heretofore; that the rock pressure in the wells which was formerly sufficient to transport the gas from the points of its origin to its destination, has so declined that costly and elaborate compressor stations are necessary to be used to accomplish such transportation; that the increase in such cost of production and transportation has been great since said order of this Commission on January 18, 1922, although the increase began before that time; that the rate filed with this Commission by petitioner to be charged in said Cities of Ashland, Catlettsburg and Louisa, on and after August 1, 1923, is a low and moderate rate, compared with the rates for which similar gas and similar service is furnished elsewhere, save only as compared with certain sections of the State of West Virginia, where, due to peculiar and temporary conditions, somewhat lower rates are enforced by public authority; but even in other parts of the State of West Virginia, which is the chief natural gas producing State of the United States, rates are fixed by public authority and charged for a similar, and in some instances inferior, service to that supplied by your petitioner to said Cities of Ashland, Catlettsburg and Louisa, at the rate of 53 cents per thousand cubic feet; that in the State of Ohio, where more gas is consumed than in any other State of the United States, and in the State of Pennsylvania, the second gas consuming State, the average rate charged for natural gas service, in no way superior to that furnished by your petitioner, is considerably in excess of the said rate so filed by your petitioner for said Kentucky cities.

FOURTH—Your petitioner avers that its predecessor, said United Fuel Gas Company, had a franchise authorizing it to occupy the streets, alleys, etc., of each of the defendant cities for the purpose of supplying natural gas to the inhabitants thereof, which franchise in the City of Ashland commenced on the 3rd day of January, 1898, in the City of Catlettsburg on the 21st day of January, 1898, and in the City of Louisa on the 1st day of July, 1898, all being for the period of twenty years from their respective dates and

all of which expired before your petitioner purchased said property from said United Fuel Gas Company, and your petitioner has never had, at any time since it engaged in business, any franchise from or contract with any one of the said defendant cities, authorizing your petitioner to occupy the streets or other public places with the pipes and appliances necessary for furnishing natural gas service to the inhabitants thereof, and your petitioner's predecessor had no franchise or contract after the expiration of those above mentioned, and your petitioner now has its pipes and appliances necessary for the service of natural gas to the inhabitants of each of the defendant cities, in the streets and other public places thereof only by sufferance of said defendants, and may be required at any time to remove the same from said streets and other public places at the mere whim or caprice of the governing bodies thereof, who have been unwilling to grant such franchise to your petitioner or its predecessor, except upon terms as to the rate which your petitioner or its predecessor might charge which were not commensurate with the value of the service.

Notwithstanding the inhabitants of said several defendant cities are constantly requesting and demanding of petitioner, as they did of its predecessor, the laying of additional mains and the installation of additional equipment in the streets and other public places, for supplying new and additional buildings from time to time being constructed, your petitioner, if it complies with such requests or demands for extensions, is obliged to construct the same at the peril of being required at any time to remove them, at great cost and expense.

Your petitioner therefore avers that it is under no obligation, legal or otherwise, to continue the service of natural gas in any one of the defendant cities; that it is unwilling to furnish such service at a rate less than that aforesaid which is filed with this Commission, and that it cannot continue such service at any less rate without loss to itself, and that it desires to withdraw from each of said defendant cities if the inhabitants thereof are un-

willing and refuse to pay the rate scheduled by your petitioner as effective on August 1, 1923.

Your petitioner therefore prays that a date may be fixed by this Honorable Commission for the hearing of the matters arising upon this petition, and notice of the time and place of such hearing given to each of said defendant cities; that in connection with such hearing there may be read and considered, as part of the record herein, the several pleadings and testimony and the orders of the Commission in said proceeding hereinbefore referred to, brought by the City of Catlettsburg, with the Cities of Ashland and Louisa as intervenors, against said United Fuel Gas Company, including the petition for rehearing of said United Fuel Gas Company and its motion made on the 11th day of July, 1923, to vacate and set aside the said order of this Commission in said proceeding made on the 18th day of January, 1922; that said last mentioned order of this Commission made in said former proceeding be adjudged and ordered as not extending to or binding upon this petitioner, or, if it be held and adjudged by this Commission as extending to and binding upon this petitioner, that then the same be vacated and set aside or modified so as to provide that the rates, a schedule of which was filed by this petitioner with the Commission, to be effective on the 1st day of August, 1923, are and have been the lawful rates chargeable by petitioner in said three defendant cities since said last mentioned date; or, in the alternative, your petitioner further prays that this, its petition, may be regarded as an application by it under Section 23, Chapter 61, of the Acts of the General Assembly of Kentucky for the year 1920, for permission to petitioner from this Commission to withdraw its service from each of said three defendant municipalities, for the reason hereinbefore set forth and for other reasons which may be assigned at the hearing of such application; that after notice to each of said defendant cities and an opportunity to be heard, the Commission will enter an order, under the provisions of said last mentioned statute, granting leave to this petitioner to withdraw from service, but petitioner will be willing to continue service

for such reasonable length of time as may be fixed by this Commission, not exceeding sixty days, in order that the inhabitants of said cities may provide other fuel and lighting service in lieu of that now being furnished by petitioner.

WARFIELD NATURAL GAS COMPANY
(Incorporated)
Petitioner.

By .....
President.

.....

.....
Attorney for Petitioner.

STATE OF WEST VIRGINIA, } SCT.
COUNTY OF KANAWHA, }

This day personally appeared before me W. R. Kay, who states that he is the President of Warfield Natural Gas Company, a corporation, the petitioner above named; that he knows the contents of said petition; and that the facts and allegations therein contained are true, to the best of his knowledge and belief.

.....

Subscribed and sworn to before me by W. R. Kay, this 29th day of August, 1923.

My commission expires ..... 19 ....

.....
Notary Public,
Kanawha County, West Virginia.

Exhibit E—3.

COMMONWEALTH OF KENTUCKY
BEFORE THE RAILROAD COMMISSION

CITY OF CATLETTSBURG ET AL.,
Plaintiffs.

UNITED FUEL GAS COMPANY,
Defendant.

Motion

United Fuel Gas Company, a corporation, defendant in the above styled proceeding, moves the Commision to revoke and set aside its order entered herein on or about the 18th day of January, 1922, reducing the rate charged by the defendant for natural gas in the cities of Catlettsburg, Ashland and Louisa, in the State of Kentucky, and in support of said motion says:

That it, the said defendant, United Fuel Gas Company, has, by deed bearing date the 28th day of June, 1923, sold and conveyed to Warfield Natural Gas Company, a corporation of Kentucky, all of the property of every character owned by said United Fuel Gas Company in the State of Kentucky, including all the pipe lines, meters, regulators, appliances and equipment of every sort heretofore used by said United Fuel Gas Company in the furnishing and distribution of natural gas in said three cities; that said Warfield Natural Gas Company, on or before the 30th day of June, 1923, has filed with this Commission a printed schedule of the rates to be charged by said Warfield Natural Gas Company for natural gas in said three cities on and

after the 1st day of August, 1923; and that said United Fuel Gas Company has withdrawn from the State of Kentucky and is no longer engaged in business of any character whatsoever therein.

Dated July 11, 1923.

UNITED FUEL GAS COMPANY
(Incorporated)

By . . . . . .
Its Attorney.

Exhibit E—4.

BEFORE THE RAILROAD COMMISSION OF KENTUCKY

WARFIELD NATURAL GAS COMPANY,
Plaintiff,

vs.

CITY OF CATLETTSBURG, ET AL.,
Defendant.

AND

UNITED FUEL GAS COMPANY,
Plaintiff,

vs.

CITY OF CATLETTSGURG, ET AL.,
Defendant.

The above entitled actions were by agreement consolidated and heard together by the Commission.

The petitioner, Warfield Natural Gas Co., on June 29th, 1923, filed its petition before the Commission alleging that it had succeeded by purchase to the ownership of all the gas properties of the United Fuel Gas Company in Kentucky on June 28th, 1923, including properties located in the defendant cities, and that it had entered into a contract to purchase its supply of natural gas from said Fuel Gas Company at 30 cents per M. cubic feet, delivered in West Virginia, and offered to file with the Railroad Commission of Kentucky a schedule of increase rate for natural gas in said city.

The United Fuel Gas Company on July 11th, 1923, filed a motion before the Commission to revoke and set

aside the order of the Commission theretofore made and entered January 18th, 1922, as and in case No. 13 on the docket of said Commission. The record in the latter case is made a part of the evidence in the instant case No. 204, and the City of Russell was granted leave to intervene as a defendant.

Thereupon the petitioners introduced testimony and filed exhibits relating to the value of the property of the United Fuel Gas Company, its operating revenue and operating expense as a whole, and for the defendant cities as well. Thereafter the defendants introduced testimony in their own behalf, and we are called upon to decide a just and reasonable rate to be charged the defendants for gas service in the respective cities. We have carefully and painstakingly read the record and briefs of counsel and do find it necessary to extend this opinion to great length in stating our conclusions herein expressed.

It is admitted in the record by counsel that the United Fuel Gas Company owned all the stock of the Warfield Company, and we assume that the officers and directors of the latter company are those chosen by the Fuel Gas Company, or the parent corporations of the latter and the conclusion is easily reached that the Warfield Company is merely a subsidiary distributing corporation of the Fuel Gas Company, which owns and controls the property of said company through its corporate management. While they are separate legal entities, it is not shown that they represent diverse or antagonistic interests, and we are unable, in fixing a reasonable rate to be charged in the defendant cities, to consider or be bound by the price of 30 cents contracted by the Warfield Company to be paid the Fuel Gas Company, and consider such price wholly unreasonable. In a case of this character the bare fact that one company agrees to sell and the other to buy at a given rate per M cubic feet, is not evidence of the reasonableness of said rate. The ordinary relation of buyer and seller does not obtain. There is no meeting of minds nor any contract within the ordinary meaning of the term. It amounts to nothing less than the Fuel Company making a contract with

itself, so far as the matter is concerned for rate purposes so that the question to be decided is, does the Fuel Gas Company receive a fair rate of return upon the property invested in the service, and to determine this question we have applied the rules announced by the Federal Supreme Court in the following cases:

> Galveston Electric Company v. City of Galveston, 258 U. S. 388.
>
> Brush Electric Co. v. City of Galveston, 258 U. S. 42.
>
> Southwestern Bell Telephone Co. v. Public Service Commission of Missouri. P. U. R. 1923 C. p. 193.
>
> Georgia Railway & Power Co. v. Railroad Commission of Georgia. P. U. R. 1923 D. p. 1.

The Legislature of this state has declared the natural gas business within its bounds to be one of public concern and subject to regulation by the Commission. The conclusion is inescapable that the Warfield Company was organized by the Fuel Company to evade regulation provided by statute in this state, and primarily in order to enable the Fuel Company to withdraw from this state. We think it cannot do by indirection what it might not do if it remained in this state, and that the Fuel Company whose rights and obligations are subject to state restrictions cannot remove them from that power by making a contract about them:

> Hudson County Water Co. v. McCarter, 209 U. S. 349.

This rule of justice, we think is very aptly stated by the Federal Supreme Court in the case of N. Y. & Q. Gas Company v. McCall, 245 U. S., 345, wherein the court said:

> "Corporations which devote their property to a public use may not pick and choose, serving only the portions of the territory covered by their franchises which it is presently profitable for them to serve, and restricting the development of the remaining portions by leaving their inhabitants in

discomfort without the service which they alone can render. To correct this disposition to serve where it is profitable, and to neglect where it is not, is one of the important purposes for which these administrative commissions, with large powers, were called into existence, with an organization and with duties which peculiarly fit them for dealing with problems such as this case presents."

We cannot agree that the citizens of Kentucky, by reason of their residence on the west bank of the Big Sandy River shall pay a much larger rate for the gas consumed than is paid by the residents of West Virginia on the East bank of said River. It is axiomatic that citizens of this Commonwealth are entitled to reasonable rates no less than are citizens of West Virginia, and any discrimination against citizens of this Commonwealth cannot be tolerated. While it is proper to permit an additional charge to take care of the extra cost of distributing the gas on the Kentucky side of the River, yet it requires but small addition to take care of this item, but the main question is whether or not the United Fuel Gas Company is receiving a fair and adequate rate of return upon all its property, including the Kentucky investment. The record demonstrates that this question must be decided in the affirmative.

The Supreme Court of West Virginia on November 27th, as we are advised, further reduced the rate obtaining in said state, and the West Virginia Commission has had before it this question for several years at various times, and has steadfastly refused to grant higher rates. The judgment of the West Virginia Supreme Court, and the orders of the Commission of that state confirm the conclusions that we have independently reached by the study of the record that the rates heretofore fixed by this Commission on January 18th, 1922, are just, fair and reasonable, and permit the petitioners to earn an adequate rate of return on their property devoted to the public use.

The contention that the petitioner may, by filing a schedule of rates before this Commission, change its rates

cannot be upheld where, as in this case, the Commission has by its order fixed reasonable rates which, as we understand the statutory mandate, shall stand until changed or modified by the Commission. Any other construction would enable the petitioner to evade the force and effect of the order by filing a new schedule of rates every 30 days.

The record as presented would not permit us to award reparation at this time for the obvious reason that no consumer is here, by petition, praying such relief, but we think it proper to strike this case from the docket with leave to reinstate same upon 10 days notice to, or by either party thereto, and with leave to any consumer upon proper pleading to intervene for reparation purposes and without prejudice to such rights, or for the purpose of showing any change in rates that may be established by petitioners in West Virginia in pursuance of final disposition of the litigation now pending in said state. For the same reason, and on account of the state of the record, we cannot at this time order any reductions in rates in said cities. This would be true altho the Commission should be of the opinion that the rates were excessive, but this we expressly decline to decide at this time, and on the record as presented hold the rates effective in pursuance of our order of January 18th, 1922, as reasonable until ordered changed by the Commission, and rates in excess thereof as unjust, unreasonable and extortionate. To the extent that rates charged and collected by petitioners are in excess of such rates, so ordered since the effective date of said order, reparation will be awarded upon proper application of consumers who have paid such rates in excess of the lawful rates so established. Authority to petitioners to file its new schedule of rates tendered the Commission is denied.

It is further ordered that the petitioners shall furnish adequate service and facilities to all consumers applying therefor within a reasonable time after such application shall be made.

Entertaining these views, we are unable to grant any increase of rates in said defendant cities, and their petition

is therefore dismissed, nor can we give our consent to the withdrawal of the petitioners or either of them from Kentucky, nor can we vacate our order of January 18th, 1922, and their motion is therefore denied.

An appropriate order will be entered on this December 11th, 1923, in accord with these conclusions, and the consolidated cases are stricken with leave as herein provided.

Exhibit E—5.

Case No. 204

BEFORE THE RAILROAD COMMISSION OF KENTUCKY.

December 11, 1923.

WARFIELD NATURAL GAS CO.,
Petitioner,

vs.

CITY OF CATLETTSBURG, ET AL.,
Defendants.

Order

AND

UNITED FUEL GAS CO.,
Petitioner,

vs.

CITY OF CATLETTSBURG, ET AL.,
Defendants.

Order

Upon consideration of the record in the above stated matter:

1. It is ordered that the petition of the Warfield Natural Gas Company be and the same is hereby dismissed; and it is further ordered that the motion of the United Fuel Gas Company to vacate the order of January 11, 1922, be and the same is hereby denied; and it is further ordered that the petition of the Warfield Natural Gas Company and of the United Fuel Gas Company to withdraw or abandon the service in the said cities be denied and refused.

2. It is further ordered that the attempt made by the petitioners to increase the rates for gas furnished to the consumers in said cities by offering to file a new schedule of rates for gas service in said cities is held for naught and of no force and effect and such increase is refused and denied.

3. It is further ordered that the following schedule of rates as fixed by the order of January 18, 1922, case No. 13, shall be the maximum rates for gas furnished to domestic consumers in the cities of Catlettsburg, Ashland and Louisa, to-wit: 80% of the rates in effect prior to said January 18, 1922, or 32 cents per M cubic feet, less a discount of four cents per M cubic feet if paid within the discount period, making a net rate of 28 cents per M cubic feet for gas furnished to domestic consumers in said cities if paid within the discount period, with a minimum monthly charge of not exceeding fifty cents per meter.

4. It is further ordered that the petitioners herein furnish and supply to all consumers and applicants for gas service in said cities adequate and sufficient facilities and gas service under reasonable rules and regulations, meaning thereby that any applicant for gas service under such rules shall be supplied with facilities and furnished with gas within reasonable time after such application shall be made therefor.

5. It is further ordered that all consumers in said cities that have paid for gas in excess of the legal rate established January 18, 1922, as aforesaid are justly entitled to reparation or refund of all such excess collected and paid for such gas, and upon a filing of claim therefor in accordance with the opinion herein reparation will be awarded.

A COPY ATTEST:
(Signed) W. W. JESSE,
Secretary.

Exhibit E—6.

HIGHTOWER EXHIBIT No. 1.

UNITED FUEL GAS COMPANY.

Prices Paid for Gas Purchased.

Average price paid for gas purchased for year 1921	.0468
Average price paid for gas purchased in contracts made since December 31, 1921	.0797

HIGHTOWER EXHIBIT No. 2

UNITED FUEL GAS COMPANY

Statement of Gas Capital Account as of June 30, 1923.

	Distribution	Production	Transmission	Total
Pipe	$ 638,960 98	$ 1,476,390 72	$3,562,480 27	$ 5,675,831 97
Casing in Wells		1,262,809 37		1,262,809 37
Other Well Construction		3,539,874 91		3,539,874 91
Acreage		38,356,586 93		38,356,586 93
Rights of Way	2,483 36	38,823 24	75,146 64	116,453 24
Rights of Way Expense	4,181 59	45,623 55	66,423 16	116,228 30
Buildings	110,849 34	55,060 01	139,303 23	305,212 58
Fittings	52,235 11	81,441 87	58,785 77	192,462 75
Gates Valves and Other Material	23,157 45	47,589 81	39,921 72	110,668 98
Labor, Teaming and Freight	132,570 38	984,405 66	2,177,524 17	3,594,500 21
Regulators	24,569 15	1,578 91	2,788 68	28,936 74
Telegraph and Telephone Lines			111,691 26	111,691 26
Office Furniture	36,732 52	3,554 84	588 00	40,875 36
Large Tools	9,470 83	6,455 73	648 92	16,575 48
Meters	460,149 93	10,551 75	10,476 74	481,178 42
Compressor Stations			2,683,632 63	2,683,632 63
Measuring Stations	26,530 59	51,380 11	38,339 73	116,250 43
Service Lines	313,628 22			313,628 22
Horses, Wagons and Autos	15,470 62	21,094 64	1,725 20	38,290 46
Drilling Tools		71,961 23		71,961 23
Cleaning-out Tools		46,931 27		46,931 27
Adjustment	4,494 75	782,468 99	2,581 00	789,544 74
Cost of Financing				193,782 85
Incomplete Construction				462,002 15
	$2,153,464 82	$46,884,583 54	$9,972,077 12	$58,665,910 48

HIGHTOWER EXHIBIT No. 2.

UNITED FUEL GAS COMPANY

Increase in Capital Expenditures from July 31, 1921, to June 30, 1923.

	Distribution	Production	Transmission	Total
Pipe	$ 34,119 66	$129,270 25	$201,718 32	$ 365,107 23
Casing in Well		91,768 22		91,768 22
Other Well Construction		212,734 72		212,734 72
Acreage		21,241 00		21,241 00
Rights of Way	96 50	3,963 45	3,625 97	7,685 92
Rights of Way Expense	50 45	4,279 64	7,891 27	12,221 36
Buildings	696 43	829 44	15,841 08	17,366 95
Fittings	1,484 74	8,901 84	617 11	11,003 69
Gate Valves and Other Material	847 43	3,003 39	2,122 21	5,973 03
Labor, Teaming and Freight	25,372 28	93,560 06	148,643 83	267,576 17
Regulators	1,775 13	292 88	413 34	2,481 35
Telegraph and Telephone Lines			551 91	551 91
Office Furniture	1,690 14	110 50	6 02	1,794 62
Large Tools	2,130 48	685 99		2,816 47
Meters	69,709 18	3,396 43	1,852 60	74,958 21
Compressor Stations			271,669 76	271,669 76
Measuring Stations	5,993 95	5,343 74	76 24	11,261 45
Service Lines	59,633 58			59,633 58
Horses, Wagons and Autos	8,165 05	7,904 20	298 92	38 07
Drilling Tools, Cleaning-out Tools		2,132 25		2,132 25
Total Net Additions	$211,764 00	$573,609 60	$654,566 22	$1,439,939 82

Grand Total Capital Expenditures for Additions July 31, 1921, to June 30, 1923 $1,999,938 22

HIGHTOWER EXHIBIT No. 4

UNITED FUEL GAS COMPANY.

Statement of Gas Sales and Expenses for Year, June 30, 1922, to June 30, 1923.

Gas Sales	M Cu Ft	Amount	M Cu Ft	Amount
Domestic	7,737,146	$1,902,574.05		
Industrial	8,447,531	2,019,656.10		
Field	771,868	77,187.00		
Wholesale	30,386,239	3,686,677.56		
			47,342,784	$7,666,094.71
Misc. Gas Earnings				14,932.98
Gasoline Royalty				395,969.97
				$8,076,997.66
Less Gas Expense				
Gas Purchased	11,292,357	$ 645,988.79		
Production Expense		1,218,110.31		
Transmission Expense		588,492.43		
Distribution Expense		141,259.73		
Commercial Expense		116,133.98		
General Expense		138,842.62		
General Taxes		530,567.69		
Federal Taxes		195,648.95		
			11,292,357	$3,570,044.50
Net Gas Earnings (before Depletion and Depreciation)				$4,506,853.16

HIGHTOWER EXHIBIT No. 5

UNITED FUEL GAS COMPANY.

Statement Showing Compressor Station Investment and Operating Expense for the Years 1914 to 1922, Both Inclusive.

Date	Investment	Operating Expense
December 31, 1914	$ 276,117.97	$ 25,150.62
December 31, 1915	349,191.71	28,778.92
December 31, 1916	360,498.19	49,967.90
December 31, 1917	509,943.59	94,068.82
December 31, 1918	992,657.01	182,943.39
December 31, 1919	1,559,852.74	269,971.77
December 31, 1920	2,172,130.65	471,446.70
December 31, 1921	2,497,663.06	415,317.49
December 31, 1922	2,686,987.32	457,490.34

HIGHTOWER EXHIBIT No. 6.

UNITED FUEL GAS COMPANY.

Statement Showing Total Gas Consumption for the Years Ending December 31, 1921, and 1922, and for the Year Ending June 30, 1923, in the Following Cities:

	M. Cu. Ft. 1921	M. Cu. Ft. 1922	M. Cu. Ft. Year Ending June 30, 1923
Ashland	1,033,215	1,215,249	1,555,663
Catlettsburg	151,700	154,531	174,964
Louisa	79,751	85,604	88,732
Russell	49,844	52,463	56,410
Total	1,314,510	1,507,847	1,875,769

HIGHTOWER EXHIBIT No. 7.

UNITED FUEL GAS COMPANY

Statement Showing Total Number of Domestic Consumers for the Year 1922, and the Average Amount Received for Gas from Each During Said Year, in the Following Cities:

	Number of Consumers	Average Amt. Received
Ashland	4,573	$44 28
Catlettsburg	1,214	37 74
Louisa	541	43 75
Russell	402	31 99

HIGHTOWER EXHIBIT No. 8.

UNITED FUEL GAS COMPANY.

Statement Showing Distribution Investment as of June 30, 1923, in the Following Cities:

Ashland	$191,434 75
Catlettsburg	47,357 50
Louisa	18,230 92
Russell	14,338 44
Total	$271,361 61

HIGHTOWER EXHIBIT No. 9.

UNITED FUEL GAS COMPANY.

Total Amount of Gas Produced in Kentucky for Each of the Years 1921 and 1922, and for the First Seven Months of the Year 1923.

Month	M Cu Ft Year 1921	M Cu Ft Year 1922	M Cu Ft First 7 Months of 1923
January	136,400	97,000	96,000
February	123,200	80,880	81,900
March	103,230	72,590	86,025
April	52,800	10,710	78,750
May	67,700		58,800
June	5,675		9,900
July			1,960
August		47,000	
September	73,800	14,960	
October	81,840	86,800	
November	61,520	98,000	
December	96,800	99,200	
Total	802,965	607,140	413,335

HIGHTOWER EXHIBIT No. 10.

UNITED FUEL GAS COMPANY.

Statement Showing Rate of Annual Return for Year Ending June 30, 1923, on Gas Capital Account Amounting to $58,665,910.48 Apportioned to Cities of Ashland, Catlettsburg, Louisa and Russell.

Investment	Ashland and Catlettsburg	Louisa	Russell
Production, Peak	$3,610,112.96	$131,276.84	$ 97,769.17
Transmission, Peak	690,849.94	25,121.82	17,944.15
General, Peak	14,921.28	542.59	387.57
Distribution, Actual	242,640.85	18,380.92	14,479.03
Incomplete Constr., Peak	35,574.16	1,293.61	924.00
Total Investment	$4,594,099.19	$176,615.78	$131,503.92
Operating Revenue, Actual	918,723.18	27,806.12	17,624.36
Operating Expenses			
Gas Purchased, Sales	$ 41,214.08	$ 1,227.38	$ 775.19
Production, Peak	93,409.49	3,396.71	2,426.22
Transmission, Peak	45,311.61	1,647.69	1,176.92
Distribution, Actual	23,828.19	1,096.24	810.83
Commercial, Actual	13,262.50	1,222.36	904.11
General, Sales	10,690.88	388.76	277.69
General Taxes, Investment	44,570.21	1,591.79	1,061.20
Federal Taxes, Sales	12,482.40	371.73	234.78
Total Operating Expense	$ 284,769.36	$ 10,942.66	$ 7,666.94
Net Earnings from Gas Sales	633,953.82	16,863.46	9,957.42
Investment as above	4,594,099.19	176,615.78	131,503.92
Rate of Return before Depletion and Depreciation	13.8%	9.5%	7.6%

Exhibit E—7.

BEFORE THE RAILROAD COMMISSION OF KENTUCKY.

WARFIELD NATURAL GAS COMPANY,
A Corporation of Kentucky,
Petitioners,

vs.

CITY OF CATLETTSBURG, CITY OF ASHLAND, AND CITY OF LOUISA,
Each a Municipal Corporation of Kentucky,
Defendants.

Motion to Consolidate

UNITED FUEL GAS COMPANY,
Petitioners,

vs.

CITY OF CATLETTSBURG, CITY OF ASHLAND, AND CITY OF LOUISA,
Each a Municipal Corporation of Kentucky,
Defendants.

Motion to Consolidate

Now comes the defendants, City of Catlettsburg, City of Ashland and City of Louisa, in each of the above cases and moves the Railroad Commission that these two cases be consolidated and heard together.

CITY OF CATLETTSBURG,

By .....
Its Attorney

CITY OF ASHLAND,

By .....
Its Attorney

CITY OF LOUISA

By .....
Its Attorney

BEFORE THE
RAILROAD COMMISSION
OF
KENTUCKY.

WARFIELD NATURAL GAS COMPANY, a corporation of Kentucky,

Petitioner,

against

CITY OF CATLETTSBURGH, CITY OF ASHLAND, AND CITY OF LOUISA,

Each a Municipal Corporation of Kentucky,

Defendants.

Answer, Counter-Claim and Cross-Petition

PARAGRAPH I.

Now comes the City of Catlettsburg, the City of Ashland, and the City of Louisa, and for their answer herein deny and say that they have not sufficient knowledge from which to form a belief, and therefore deny, that the WARFIELD NATURAL GAS COMPANY is a corporation created or organized or existing under the laws of the State of Kentucky, or that said WARFIELD NATURAL GAS COMPANY has recently purchased or acquired of the UNITED FUEL GAS COMPANY, a Corporation of West Virginia, all the property at the time of purchase, owned by said latter company in the State of Kentucky, or that

same has been conveyed to the petitioner by the Deed of said UNITED FUEL GAS COMPANY on the 28th of June, 1923, or any other time, or that the property so acquired by petitioner consists in part of natural gas pipe lines extending from the State of West Virginia into the State of Kentucky, or crossing the Northeastern part of the said State of Kentucky into the State of Ohio, heretofore used in part for the transportation of natural gas from the State of West Virginia into the State of Ohio, for sale or consumption in the latter State, or either State, or in part for the transportation of natural gas from the State of West Virginia into the State of Kentucky, or for sale or consumption in said last mentioned State, or that since the acquisition of said property as alleged by your petitioner the said pipe lines have been used heretofore by the WARFIELD NATURAL GAS COMPANY, for the transportation or sale of gas in both of said States of Kentucky or Ohio.

The defendants admit that on or about the 28th day of April, 1920, the City of Catlettsburg filed with this Commission its complaint against the UNITED FUEL GAS COMPANY, averring that the rate then being charged by the UNITED FUEL GAS COMPANY to domestic consumers in said City, for natural gas furnished by said Company, namely, 40 cents per thousand cubic feet, with a discount of 5 cents per thousand cubic feet, for prompt payment, was unreasonable, unjust and extortionate and praying that the same be reduced by an order of this Commission; and it is further admitted that thereafter the City of Ashland and Louisa filed intervening petitions, making substantially the same averments with respect to natural gas furnished to domestic consumers within their respective limits by said UNITED FUEL GAS COMPANY, with a similar prayer for an order reducing said rates. That it is true that the said UNITED FUEL GAS COMPANY in reply to said complaint filed its several motions to dismiss the same, and testimony was taken upon the issue so presented; and that this Commission thereafter, on the 18th day of January, 1922, ordered a reduction to be made in the rates charged in said

three Cities to 80% of the rates then charged for all classes of gas service.

And it is further admitted that promptly after said order had been made and entered by this Commission said UNITED FUEL GAS COMPANY, on or about the 25th day of January, 1922, filed with this Commission a petition for re-hearing of said proceedings and praying that said order of January 18th, 1922, be revoked, set aside and held for naught, and that said petition was over-ruled by this Commission.

Defendants further deny that said UNITED FUEL GAS COMPANY in obedience to said order reduced the rates then being charged by it to domestic consumers in said three cities, or at all times thereafter charged to said consumers in said three cities for natural gas only 80% of the rate formerly charged; and said defendants further deny that the UNITED FUEL GAS COMPANY on the 28th day of June, 1923, sold or conveyed to the petitioner all of the property then owned by it in the State of Kentucky, or that the UNITED FUEL GAS COMPANY has, since said date, June 28th, 1923, ceased to do any business whatsoever in said State of Kentucky, or has withdraw from the State.

The defendants further deny that in connection with the alleged purchase of said property by the WARFIELD NATURAL GAS COMPANY from said UNITED FUEL GAS COMPANY on the 28th day of June, 1923, it made an arrangement or entered into a contract with the said UNITED FUEL GAS COMPANY, by which said UNITED FUEL GAS COMPANY agreed to sell, or the WARFIELD NATURAL GAS COMPANY agreed to purchase, at a point in West Virginia near the boundary line between said State or the State of Kentucky, such quantities of natural gas as said UNITED FUEL GAS COMPANY might have available for sale at said delivery point, not exceeding the quantity, from time to time, which petitioner might desire to purchase for re-sale to the consumers in said City of Catlettsburg, City of Ashland, or City of Louisa, or elsewhere, in the State of Kentucky, or that the price which the WARFIELD NATURAL GAS COMPANY agreed to pay

for such gas during the year commencing July 1, 1923, was or is 30 cents per thousand feet, or that during subsequent years the price is to be fixed by arbitration, if not by agreement, or that it is contemplated by the parties to said contract that the constant tendency in the price of natural gas would be to increase, due to the failing supply thereof, or the increased cost of its production, or transportation.

The defendants admit that on or about the 28th day of June, 1923, the WARFIELD NATURAL GAS COMPANY filed with this Commission a schedule of the rates which it would charge for natural gas on and after August 1, 1923, in said Cities of Catlettsburg, Ashland and Louisa, as well as in other localities in the State of Kentucky being supplied by said UNITED FUEL GAS COMPANY, and that about the same time and more than 30 days before the 1st day of August, 1923, gave notice of the rates which would be charged on or after August 1st, 1923, and filed with the recorders of said Municipalities a copy of said schedule so filed with the Commission, but defendants aver that said attempted filing of said schedule on the 28th day of June, 1923, was and is unauthorized, illegal and of no force and effect as applied to these defendants.

Defendants admit that on the 11th day of July, 1923, said UNITED FUEL GAS COMPANY filed with the Commission its motion to revoke and set aside the order hereinbefore mentioned and made by this Commission on the 18th day of January, 1922, reducing the rates which might be lawfully charged by said UNITED FUEL GAS COMPANY in said City of Catlettsburg, City of Ashland and City of Louisa, for all gas sold and delivered for domestic and industrial use.

Defendants admit the UNITED FUEL GAS COMPANY filed in support said motion its statement showing that it had conveyed to the WARFIELD NATURAL GAS COMPANY all its property in the State of Kentucky by deed dated the 28th day of June, 1923, but aver that said statement is untrue but if true defendants say that said alleged transfer and sale was, and is, without force or effect, or binding upon these defendants.

Defendants admit that the WARFIELD NATURAL GAS COMPANY did, on or before the 28th day of June, 1923, attempt to file with this Commission a printed schedule of the rate which said WARFIELD NATURAL GAS COMPANY would charge for natural gas in said three cities on and after the 1st day of August, 1923, but the defendants deny that the attempted filing of the schedule of rates was authorized, or has any binding effect or force upon these defendants.

Defendants admit that the UNITED FUEL GAS COMPANY stated that it had withdrawn from the State of Kentucky, and was no longer engaged in business in the State of Kentucky, and the defendants admit that this Commission has not acted upon said motion and has not modified, vacated or set aside its order of January 18th, 1922, and that said order is in full force and effect at this time.

The defendants further deny that the WARFIELD NATURAL GAS COMPANY is entitled to charge as a lawful rate for natural gas furnished to domestic consumers in the said three Cities of Catlettsburg, Ashland and Louisa, on or after the 1st day of August, 1923, or a rate of 45 cents per one thousand cubic feet, with a discount of 5 cents per thousand cubic feet for prompt payment, as shown in the schedule filed with this Commission by the WARFIELD NATURAL GAS COMPANY in the latter part of June, 1923, or that same will continue to be the lawful rate until such time as it may be changed by proper notice but defendants admit that the order entered by this Commission on January 18th, 1922, reducing the rate which might be charged by the UNITED FUEL GAS COMPANY in the conduct of said business, remains effective as to all distributors of natural gas in these communities, and limits the rate which any distributor may charge and collect for such natural gas in the localities aforesaid to the maximum prescribed by said order.

The defendants deny that the customers of this petitioner are left in doubt as to what is the lawful rate which they may charge, or that many of them are refusing, or

will continue to refuse to pay the distributing company the lawful rate established by the order of this Commission as aforesaid, or that such refusal on the part of said customers will require the distributing company in carrying out the lawful promulgated rules governing the service to discontinue service to patrons who refuse to pay the lawful rate, thereby causing a great public inconvenience, or public confusion or embarrassment to the distributor in the conduct of its business of selling and distributing gas, or unless or until said order of the 18th day of January, 1922, shall be modified, or vacated or set aside.

The defendants deny that the reduced rates prescribed by the order of this Commission on January 18th, 1922, if operative upon any distributing gas company now furnishing gas to the defendant cities, will be wholly unjust, or unreasonable, or confiscatory; and further deny that the net receipts for gas sold or delivered in the defendant cities by any gas distributing company under the rates per thousand cubic feet prescribed by this Commission in its order dated January 18th, 1922, will not yield in excess of 3% annually, or any profit whatsoever, as a return upon the property of any such natural gas distributing company.

Defendants deny that said rate as prescribed by the order of this Commission of date January 18th, 1922, will deprive the owners of the gas property serving said dedefendants without due process of law, or contrary to the Fourteenth Amendment of the Constitution of the United States; deny that no rate for natural gas to the domestic consumer at this time being supplied by the distributing company in said Cities of Catlettsburg, Ashland and Louisa, less than a rate of 45 cents per one thousand cubic feet, with a discount of five cents per thousand cubic feet, for prompt payment, would be just or reasonable to the distributing company, but the defendants aver that any rate in excess of that fixed by this Commission in its order of January 18th, 1922, would be unjust, unreasonable, extortionate and exorbitant and would deprive the users and consumers of natural gas in the defendant cities of their property without due process of law in violation of the

Constitution of the State of Kentucky and in violation of the Fourteenth Amendment of the Constitution of the United States.

Defendants deny that even a higher rate than that now filed by the distributing company with this Commission, will, in the remote future become necessary in order that same may become compensatory to the distributing company so far as now can be foreseen due to the rapid or constant increase in the cost of producing from the earth, or transporting or furnishing to consumers natural gas.

Defendants deny that the natural gas which the distributing company is able to obtain for the service of the inhabitants of said Municipalities of Catlettsburg, or Ashland or Louisa is all produced in the State of West Virginia, or collected by said UNITED FUEL GAS COMPANY from numerous wells in said State of West Virginia at great distance from each other, or that some of them are approximately 80 miles from the point of delivery of gas to the alleged distributing company, or that the average quantity obtainable from each well is constantly growing less, or so that a greater number of wells is necessary for delivering of same quantity as heretofore, or that the rock pressure in the wells which was formerly sufficient to transport the gas from the points of its origin to its destination has so declined that costly or elaborate stations are necessary to be used to accomplish said transportation, but defendants say that if they are mistaken in said denial then they aver that it is a fact that the rates now being charged for natural gas in the said Municipalities of Catlettsburg, Ashland, and Louisa, by the distributing company, yield a fair return upon the fair value of all such additional wells, transmission lines and all compression stations and all property used and useful in the production, transmission and distribution of said gas in said communities.

Defendants deny that the increase in said cost of production and transportation has been great since said order of this Commission under date of January 18th, 1922, or that the increase begun before that time. Deny that the

rate attempted to be filed with this Commission by the distributing company to be charged in said City of Catlettsburg, or the City of Ashland, or the City of Louisa, on or after August 1, 1923, is a lawful or low or moderate compared with the rate for which similar gas or similar service is furnished elsewhere; they deny that the rates in other communities for similar gas service form any basis or criterion for rates to be charged in the defendant Cities.

Defendants admit that like service is furnished by the UNITED FUEL GAS COMPANY to the Cities of Huntington, Kenova, and surrounding Cities contiguous to the Cities of Catlettsburg, Ashland and Louisa, but furnished at a rate of less than the legal rate fixed by this Commission on January 18th, 1922, in the defendant Cities, and that said UNITED FUEL GAS COMPANY is now attempting to maintain said rates in proceedings pending in the Supreme Court of Appeals of West Virginia instituted by the City of Huntington and other Cities, for the purpose of suspending the increase of 5 cents per thousand cubic feet promulgated by the West Virginia Public Service Commission on August 9th, 1923, in Case No. 1251, before said Commission.

Defendants admit that the UNITED FUEL GAS COMPANY had a franchise authorizing it to occupy the streets, and alleys, etc., of each of defendant Cities for the purpose of supplying natural gas to the inhabitants thereof, which franchise in the City of Ashland began on the 3rd day of January, 1898, in the City of Catlettsburg on the 21st day of January, 1898, and in the City of Louisa on the 1st day of July, 1898, all being for a period of twenty years from their respective dates and all of which expired some time before the alleged purchase of the said property from the said UNITED FUEL GAS COMPANY, and defendants admit that the petitioner herein has never at any time had any franchise from, or contract with any one of the defendant Cities, authorizing your petitioner to occupy the streets or other places with the pipe or appliances necessary for furnishing natural gas service to the inhabitants thereof, and admits that the UNITED FUEL GAS COMPANY

had no such franchise or contract after the expiration of these above mentioned, and that all pipes, mains and other appliances and appurtenances now being used in the streets and along the alleys and highways of the said defendant Cities, are permitted to remain there and be used without interference on the part of said defendants, and defendants deny that the Gas Company will be required at any time to remove the same from said streets or other public places at the mere whim or caprice of the governing bodies thereof, or that said governing bodies have been unwilling to grant a franchise to the UNITED FUEL GAS COMPANY except upon such terms as to the rate which the purchaser of any franchise might charge which were not commensurate with the service, but the defendants aver that they were, and are at all times willing to grant a franchise to the UNITED FUEL GAS COMPANY, or any of its agents, upon terms that are just and reasonable and fair to the gas distributing company and to the public.

Defendants admit that private consumers in said cities are making requests upon the Gas Company for gas service and the laying of new service pipes from the mains in the streets in said Cities to the property line of said prospective gas consumers, which said requests and applications for gas service the gas distributing company, now occupying the streets and highways of said Cities, are refusing to make contrary to their lawful obligation.

Defendants deny that in making such service connections and the construction or installation of additional pipes and appurtenances and appliances that the gas distributing company incurs any peril or hazard whatsoever in that said gas company being the sole source of supply of gas in said cities incurs no risk, or hazard or peril whatsoever, or stands in fear of being required at any time by the whim or caprice of the governing bodies, or otherwise, to remove said pipes or property of any kind or character whatsoever in the streets and highways of said Cities.

Defendants deny that the distributing company is under no legal obligation, or otherwise, to continue the service of natural gas in all of said Cities and further deny

that the gas company cannot furnish such service at a rate less than that fixed by the schedule heretofore filed by the WARFIELD NATURAL GAS COMPANY with this Commission without loss to itself.

Defendants further say that they have not sufficient knowledge or information upon which to form a belief and therefore deny that the UNITED FUEL GAS COMPANY, or its agents, desires to withdraw from each of said defendant Cities if the inhabitants thereof are unwilling, or refuse to pay the rate specified in the schedule of rates filed by the petitioner.

PARAGRAPH II

Now comes the defendants, the City of Catlettsburg, the City of Ashland, and the City of Louisa, and for further answer herein state, that the UNITED FUEL GAS COMPANY commenced doing business in the defendant Cities, on or about the year 1898 and has since said time operated under a franchise from the City of Catlettsburg, the City of Ashland and the City of Louisa until, or about the year 1918; that after the expiration of the franchises in the respective Cities said UNITED FUEL GAS COMPANY continued its service in said Cities and actively engaged in fostering the use and sale of natural gas as fuel to both domestic and industrial consumers in each of said communities, that this service continued, without franchise and without objection thereto on the part of the governing bodies of either of said Cities; that on or about March 22nd, 1920, the Legislature of the State of Kentucky enacted Chapter 61 of the 1920 Acts of the Kentucky Legislature delegating to the Railroad Commission of Kentucky jurisdiction among others, of natural gas companies engaged in transmission, through pipe line companies and fixing and regulating the rates and charges for natural gas by said transmission pipe line companies and the fixing and regulating the rates and charges and the quality of service of natural gas in communities and cities in said Commonwealth where there are natural gas distributing companies

so operating without a franchise and generally impowering the said Commission to have and exercise control of all matters and things effecting the prices of natural gas in said Commonwealth as aforesaid and in said Cities as aforesaid; that at all times thereafter the said UNITED FUEL GAS COMPANY operated in said Commonwealth and said Cities as aforesaid under the jurisdiction of said Railroad Commission.

The defendants are informed and believe and therefore state that the petitioner herein, WARFIELD NATURAL GAS COMPANY, was organized and created as a Corporation under the laws of the State of Kentucky by the UNITED FUEL GAS COMPANY, its officers, employees and agents, for the sole and only purpose of evading the jurisdiction of this Commission with respect to the rates fixed by this Commission in its order of January 18th, 1922, fixing and regulating the rates of the UNITED FUEL GAS COMPANY heretofore, and that the UNITED FUEL GAS COMPANY, pursuant to said purpose of evading the jurisdiction of the Railroad Commission of the State of Kentucky has attempted to sell and convey to said WARFIELD NATURAL GAS COMPANY by deed bearing date the 28th day of June, 1923, all of its property as alleged, situated in the Commonwealth of Kentucky, including the property situated in the defendant Cities.

Defendants say that the UNITED FUEL GAS COMPANY conveyed said property to the WARFIELD NATURAL GAS COMPANY for and in consideration of all the capital stock of the WARFIELD NATURAL GAS COMPANY; that said stock is now owned and held by the UNITED FUEL GAS COMPANY and that said UNITED FUEL GAS COMPANY exercises, in every respect, the entire control of the management and policy of the WARFIELD NATURAL GAS COMPANY; and defendants further say that the effect of said alleged sale is that the seller of said property has sold to itself so that the UNITED FUEL GAS COMPANY now is, and was at the time of the making of the alleged contract—whereby gas is alleged to be sold to the WARFIELD NATURAL GAS COMPANY for

30 cents per thousand cubic feet at a point near the Southwestern boundary line of West Virginia, making a contract with itself for the purpose of attempting to practice a fraud upon the Railroad Commission of Kentucky and upon all of the consumers of natural gas in the defendant Cities, and elsewhere in the Commonwealth of Kentucky; because said contract is unjust, fraudulent, and was made for the sole and only purpose of increasing the rate to consumers in Kentucky and will result in rates, unjust, unreasonable and extortionate. Defendants further say that said alleged contract being fraudulent as aforesaid, is lacking in good faith, is unjust and unreasonable and the rate therein fixed is exorbitant and extortionate; that by reason of the attempted sale as aforesaid by the UNITED FUEL GAS COMPANY and for the purposes aforesaid said sale is illegal, and void and of no binding effect upon the Railroad Commission of Kentucky, or these defendants; that said alleged contract aforesaid for the reasons above stated is void, illegal and of no binding effect upon either the Railroad Commission of Kentucky, or the defendant Cities.

Defendants further say that the UNITED FUEL GAS COMPANY was, and is now and at all times after June 28th, 1923, subject to the jurisdiction, regulations and orders of this Commission.

Defendants further say that notwithstanding that said UNITED FUEL GAS COMPANY, or its alleged agent, the WARFIELD NATURAL GAS COMPANY, was and is now, in duty bound to furnish adequate service to the consumers in said Cities, the defendants, City of Catlettsburg, City of Ashland and City of Louisa, state that a large number of new residences and other buildings and habitations have recently been constructed and completed in said City, and that the owners or agents of such premises have requested service connections and service from said UNITED FUEL GAS COMPANY, or its agent, but that said UNITED FUEL GAS COMPANY, or its agents, have failed and refused to make such service connections and to furnish service to said applicants to the great inconvenience, loss and damage of said applicants.

Defendants say that they have had at no time, and have not now, any intention to arbitrarily or capriciously deprive the UNITED FUEL GAS COMPANY from using their streets and highways for the purpose of selling and distributing natural gas, and that the UNITED FUEL GAS COMPANY has a monopoly of the gas producing and gas distributing business in defendant Cities and the entire Northeastern part of the State of Kentucky.

Defendants say that by the order of this Commission dated January 18th, 1922, the rates for the domestic and industrial gas service in the defendant Cities, furnished by the UNITED FUEL GAS COMPANY, to the consumers in the City of Catlettsburg, and the City of Ashland, and the City of Louisa were reduced to 80% of the rates then in effect by said UNITED FUEL GAS COMPANY in said Cities prior to January 18, 1922, and said reduced rates were made effective from and after February 11th, 1922; that at the time of the issuance and promulgation of said order the rates and charges for natural gas in the Cities of Catlettsburg, Ashland and Louisa, were as more particularly set forth in the proof introduced by the complainants in said cause as follows:

> For domestic service 40 cents per 1000 cubic feet, with a discount of 5 cents per 1000 cubic feet.
>
> For industrial service for the first 500,000 cubic feet consumed, in each calendar month, .36 cents per thousand cubic feet; for all over 500,000 cubic feet consumed in each calendar month, .31 cents per thousand cubic feet, with a discount of 1 cent per thousand cubic feet, to defendant Cities.

That by discount herein above specified was, and is meant the allowance of 5 cents per thousand cubic feet to be deducted from the price of 40 cents per thousand cubic feet as billed to domestic consumers made by the gas company for payment within the discount period and that the discount of 1 cent per thousand cubic feet is meant an allowance of 1 cent per thousand cubic feet to be deducted

from the price as billed to an industrial consumer for payment within the discount period.

Defendants further say that the effect of said reduction of 80% of the aforesaid rates in effect prior to the issuance of said order of January 18th, 1922, was and is a rate for domestic service of 32 cents per thousand cubic feet with a discount of 5 cents per thousand cubic feet, if paid within the discount period, reduced the price for domestic service gas to 27 cents per thousand cubic feet, if paid within the discount period and that the effect of the reduction of 80% in the rates theretofore charged to industrial consumers, being that of .36 cents per thousand cubic feet for the first 500,000 cubic feet and within a discount of 1 cent per thousand cubic feet, if paid within the discount period, was and is a rate for industrial service of 28.8 10 cents per thousand cubic feet, less 1 cent per thousand cubic feet, if paid within the discount period, reduced the price for industrial service to 27.8 10 cents per thousand cubic feet, and that for all over 500,000 cubic feet of gas, the rate theretofore charged was 31 cents per thousand cubic feet, with a discount of 1 cent per thousand cubic feet if paid within the discount period, was and is a rate of 24.8 10 cents per thousand cubic feet, less 1 cent per thousand cubic feet, reduced the price for industrial service to 23.8 10 cents per thousand cubic feet, if paid within the discount period.

Defendants say that the UNITED FUEL GAS COMPANY in disregard of said lawful rate has billed and charged to domestic consumers and collected from said domestic consumers of natural gas in said Cities a rate of 32 cents per thousand cubic feet with a discount of 1 cent per thousand cubic feet making a net rate of 31 cents per thousand cubic feet in disregard of the lawful rate for domestic service as promulgated by said order of this Commission fixing a net rate of 27 cents per thousand cubic feet.

Defendants say that the UNITED FUEL GAS COMPANY in disregard of said lawful rate has billed and charged to industrial consumers of natural gas and collected from said industrial consumers of said gas in said Cities a rate

of 31 cents per thousand cubic feet, less 1 cent per thousand cubic feet, if paid within the discount period, making a net rate of 30 cents per thousand cubic feet in disregard of the lawful rate as promulgated by said order of this Commission fixing a net rate of 27.8/10 cents for the first 500,000 cubic feet of gas and a rate of 23.8/10 cents for all over 500,000 cubic feet and consumed during the calendar month, as provided by the order of this Commission, which became effective February 11th, 1922.

Defendants state that by reason of the UNITED FUEL GAS COMPANY collecting said unlawful rate it is indebted to the consumers of domestic and industrial gas in the defendant Cities in an amount largely in excess of $100,000.00.

Defendants say that the rates ordered to be charged and collected by the order of this Commission dated January 18th, 1922, have at all times heretofore been, and now are more than just, reasonable and fair to said UNITED FUEL GAS COMPANY in that said rates will yield to the UNITED FUEL GAS COMPANY all of its reasonable operating expenses, a sum sufficiently annually as a reserve for depreciation and depletion, all State, County and Municipal Taxes, Federal Income Taxes, and more than 8% upon fair value of its property used and useful in the production, transmission, distribution and sale of natural gas; that said rates so promulgated by said order of said Commission are unjust, unreasonable, and exorbitant and extortionate to the consumers of natural gas in the defendant Cities.

WHEREFORE the defendants, City of Catlettsburg, City of Ashland, and City of Louisa, pray that their answer herein be considered an answer to the motion of the UNITED FUEL GAS COMPANY and also as a cross-petition against the UNITED FUEL GAS COMPANY, and they further pray that the rates fixed in the order of January 18th, 1922, of this Commission be not modified, vacated or set aside, altered or changed; that the application of the UNITED FUEL GAS COMPANY for such modification, vacation, and change, and cancellation be refused and that the present rate established by the order of January 18th, 1922, be continued in full force and effect and that the

petition of the WARFIELD NATURAL GAS COMPANY be dismissed; that the Railroad Commission of Kentucky order said UNITED FUEL GAS COMPANY, and its agents, to make connections to new residences and business houses in the defendant Cities, and furnish same with gas and provide same with adequate service, and that the Railroad Commission of Kentucky order and direct the UNITED FUEL GAS COMPANY to prepare a statement in detail showing the names and addresses of all consumers in said defendant Cities to whom it has furnished gas from February 11th, 1922, to the final date of the hearing herein and the order herein prayed for to show the amounts collected from said consumers during the period aforesaid and the amounts that should have been charged and collected from said consumers as the lawful rate under the order of this Commission dated January 18th, 1922, and the defendants further pray that this Commission by proper order direct said UNITED FUEL GAS COMPANY to make reparation to each and all of said consumers in said Cities the sums or amounts so paid by and collected from said consumers in violation of said order; that said reparation may be made in the form of a credit on the bills of present consumers and payments in cash be made to such former consumers or customers who are not now customers of said UNITED FUEL GAS COMPANY; that said order shall require a full and complete accounting to be furnished to the Railroad Commission and to the City Attorneys of the respective defendant Cities monthly until such time as a full and complete payment has been made to all parties entitled thereto.

CITY OF CATLETTSBURG,

By .....

City Attorney.

CITY OF ASHLAND,

By .....

City Attorney.

CITY OF LOUISA,

By .....

City Attorney.

AGREEMENT

THIS AGREEMENT, made this 28th day, of June, 1923, by and between United Fuel Gas Company, a corporation of West Virginia, party of the first part, and Warfield Natural Gas Company, a corporation of Kentucky, party of the second part;

WHEREAS, in pursuance of resolutions duly adopted by the respective Boards of Directors of the parties hereto, the first party has sold and the second party has purchased all of the property owned by the first party situate in the State of Kentucky, it being provided, however, that the conveyance of said property should be made and possession taken by the purchaser when the Presidents of the respective parties hereto should agree upon certain collateral matters in connection with said sale and transfer; and,

WHEREAS, the Presidents of the respective parties hereto have agreed upon said several collateral matters and the said deed of conveyance is at this time being delivered, with the intention that the party of the second part shall take over, as of July 1, 1923, the business at this time being conducted by the first party in the State of Kentucky;

NOW, THEREFORE, THIS AGREEMENT WITNESSETH:

FIRST—The first party agrees to sell and deliver and the second party agrees to purchase and accept, at a point or points on the West Virginia side of the Big Sandy River, near the Town of Kenova, West Virginia, such quantities of natural gas as may be requisite, during a period of ten (10) years commencing July 1, 1923, for supplying consumers of such gas in the State of Kentucky along the pipe lines extending from said points near the Town of Kenova, West Virginia, in a northwesterly direction along the Ohio River to a point where the said pipe lines cross said river into the State of Ohio, including consumers in the municipalities of Catlettsburg, Ashland, Russell, Chinville,

Worthington, Pollard and Greenup, and also such quantities of natural gas as may be required by the second party for supplying consumers in the State of Kentucky located along the pipe line extending from said point near Kenova, West Virginia, up the Big Sandy River in a southwesterly direction, to and including the City of Louisa, in the State of Kentucky. It is intended and agreed that the title to such gas shall pass from the first party to the second party on the West Virginia side of the said Big Sandy River, but the first party will transport the same through its existing river crossings to the boundary line between said State of Kentucky and the State of West Virginia, entirely at the risk of the second party, and any leakage occuring in or about such river crossings shall be the loss of the second party.

It is further understood and agreed that the obligation of the first party to deliver such gas to the second party shall be limited at all times to the quantities which the first party may have available for such delivery, taking into consideration its other obligations to furnish natural gas.

The party of the first part agrees to furnish and install, at its expense, one or more orifices at the point or points of delivery near said Town of Kenova, for the measurement of the gas hereby sold, and computation of the quantity thereof shall be upon a pressure basis of ten (10) ounces above 14.7 pounds atmospheric, and upon a temperature of forty degrees Fahrenheit flowing and fifty degrees storage, according to Boyle's Law for the measurement of gas at varying pressures, but without allowance for changes in temperature and barometric conditions from the aforesaid basis; but until such time as such measuring equipment may be installed, the party of the first part agrees to accept as the measurement of the gas delivered hereunder the combined meter reading of the second party used by it in the sale and distribution of the gas so received by it along the pipe lines aforesaid, it being contemplated that all the gas sold to the second party along said pipe lines

extending down the Ohio River into the State of Ohio and along said pipe line extending up the Big Sandy River as far as the City of Louisa, will be purchased from the first party.

The price to be paid by the second party to the first party for the gas delivered under the provision of this paragraph shall, during the year commencing July 1, 1923, be at the rate of thirty (30) cents per thousand cubic feet, and payment therefor shall be made on or before the twentieth (20th) day of each month for all gas delivered during the preceding month. The price to be paid by the second party for the gas delivered to it during the succeeding nine years provided for in this paragraph, shall be determined by arbitration in the following manner: Each of the parties hereto shall select and appoint one arbitrator, whose duty it shall be, on or before the 1st day of June, 1924, and the first day of June in each of said succeeding years, to agree upon a price to be paid for such gas during the year commencing on the 1st day of July following; but upon their failure so to agree for any one or more years, they shall be authorized and empowered to select a third arbitrator, and the price fixed by a majority of the three arbitrators so appointed, for any such year or years, shall be final.

SECOND—The party of the second part agrees to transport through said pipe lines extending down the Ohio River, for the use and at the risk of the party of the first part, such additional natural gas as the first party may desire to have transported from said point or points near the Town of Kenova, West Virginia, to the boundary line between the State of Kentucky and the State of Ohio, where said pipe lines now cross said boundary line at the Ohio River. The second party also agrees to transport through so much of said pipe line extending up the Big Sandy River as is owned by the second party, for the use and at the risk of the first party, such additional quantities of natural gas as the first party may desire to have transported through said last mentioned pipe line, for consump-

tion at the Town of Fort Gay, West Virginia, or for delivery at the Kermit (West Virginia) Compressor Station of the first party, or elsewhere in West Virginia. It is intended, however, that no preference shall be given in the use of said pipe line facilities as between the gas being transported by the second party for its own consumers and that being transported for the use of the first party.

The first party agrees to pay to the second party at the end of each year during which the second party may transport any gas for the use of the first party under the provisions aforesaid, a share of the cost during such year of maintaining and operating the pipe lines through which said gas is transported (including a reasonable sum for depreciation during such year), proportionate to the respective quantities of gas transported through said line for the use of the two companies, respectively.

THIRD—The party of the second part agrees to sell and the party of the first part agrees to purchase all of the natural gas which the second party may produce from lands operated by it in the State of Kentucky, as well as all such natural gas that the second party may acquire by purchase from other sources from lands operated in said State of Kentucky, for and during a period of twenty-one (21) years from and after the first day of July, 1923; it being understood, in this connection, that all contracts under which the first party has at this time the right to purchase gas from other producers thereof from lands in the State of Kentucky, are contemporaneously herewith assigned by the first party to the second party.

The second party agrees that it will deliver all of said natural gas by this paragraph agreed to be sold to the first party, at the boundary line between the State of West Virginia and the State of Kentucky, in the existing pipe line crossing said boundary line opposite the Kermit (West Virginia) Compressor Station of the first party, continuously, but with variations in the deliveries corresponding to temperatures as reflected by the demands of customers for such gas of the first party, and the second party further

agrees that of the gas so delivered by it under this paragraph to the first party, it will re-transport such part thereof as the first party may require, through existing pipe lines owned on the Kentucky side of the Big Sandy River by the second party, to the measuring station now operated by the first party at Inez, in the County of Martin and State of Kentucky, used in the sale and delivery of gas by the first party to Central Kentucky Natural Gas Company and Louisville Gas & Electric Company. The first party agrees to pay to the second party for all gas delivered to the first party under this paragraph, a rate or price per thousand cubic feet each month equal to ninety (90) per cent of the rate or price per thousand cubic feet received during such month by the first party, on the average, for the gas sold by the first party to said Central Kentucky Natural Gas Company and Louisville Gas & Electric Company, but the second party shall not be entitled to any further compensation for retransporting the whole or any part of said gas from the said State boundary line opposite said Kermit Compressor Station to said village of Inez.

It is understood and agreed that said gas so to be delivered to the first party by the second party is subject to the right vested in the Virginian Gasoline & Oil Company to first extract the gasoline therefrom, as provided in a certain written contract between said Virginian Gasoline & Oil Company and the party of the first part, bearing date the first day of May, 1922.

IN WITNESS WHEREOF, the parties hereto have caused their respective corporate seals to be hereunto affixed and this agreement to be signed by their Presidents, respectively, the day and year first above written, all in duplicate.

(Sgd.) UNITED FUEL GAS COMPANY,
By F. W. Crawford
(CORPORATE SEAL) President

(Sgd.) WARFIELD NATURAL GAS COMPANY
By W. R. Kay
(CORPORATE SEAL) President

STATE OF OHIO,
COUNTY OF FRANKLIN, } TO-WIT:

I, H. I. Long, a Notary Public for said County, do certify that F. W. Crawford personally appeared before me in my said County, and being by me duly sworn, did despose and say that he is President of the United Fuel Gas Company, one of the corporations described in the writing hereto annexed, bearing date the 28th day of June, 1923, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to said writing is the corporate seal of said corporation, and that said writing was signed and sealed by him in behalf of said corporation by its authority duly given. And the said F. W. Crawford acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal this 3rd day of August, 1923.

My commission expires, Dec. 1st, 1923.

(Sgd.) H. I. LONG,
Notary Public.

(NOTARIAL SEAL)

STATE OF WEST VIRGINIA,
COUNTY OF KANAWHA, } TO-WIT:

I, Jno. C. McEldowney, a Notary Public for said County, do certify that W. R. Kay personally appeared before me in my said County, and being by me duly sworn, did despose and say that he is President of the Warfield Natural Gas Company, one of the corporations described in the writing hereto annexed, bearing date the 28th day of June, 1923, authorized by said corporation, to execute and acknowledge deed, and other writings of said corporation, and that the seal affixed to said writing is the corporate seal of said corporation, and that said writing was signed and sealed by him in behalf of said corporation by its authority duly given. And the said W. R. Kay acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal this 15th day of August, 1923.

My commission expires November 30, 1930.

(Sgd.) JNO. C. McELDOWNEY,
(NOTARIAL SEAL) Notary Public.

Miscellaneous 1365

UNITED FUEL GAS CO.

—TO—

WARFIELD NATURAL GAS CO.

TO DEED

Recorded:—

Boyd, County, Ky.,
Bk-94-Pg-73.

Greenup County, Ky.,
Bk-60-Pg-261.

Lawrence County, Ky.,
Deed Bk-71,
Page-161.

Martin County, Ky.,
Bk-25,
Page-146.

THIS INDENTURE, made this the 28th day of June, 1923, between UNITED FUEL GAS COMPANY, a corporation of West Virginia, party of the first part, and WARFIELD NATURAL GAS COMPANY, a corporation of Kentucky, party of the second part;

WITNESSETH: That pursuant to the affirmative vote of the Board of Directors of the said party of the first part, given at special meeting thereof duly called and held on the 25th day of April, 1922, the party of the first part, in consideration of five thousand four hundred and sixty-one (5,461) shares of the capital stock of the said party of the second part (being all of the capital stock outstanding at this time of the party of the second part, except three shares each held by the members of its Board of Directors), transferred and delivered to the party of the first part at or before the ensealing and delivery of these presents, under the authority of a resolution of the Board of Directors of said second party duly passed at a meeting of said Board, regularly called and held on the 8th day of February, 1922, as modified by a resolution of said last mentioned Board at a meeting duly held on the 12th day of April, 1922, and in further consideration of the assumption by the party of the second part of a certain share of the mortgage indebtedness of the said party of the first part as hereinafter set forth, has granted, conveyed, bargained, confirmed, sold, aliened, remised, released, transferred, set over and assigned, and by these presents does hereby grant, convey, bargain, confirm, sell, alien, remise, release, transfer, set over and assign, with general warranty (except against the lien hereinafter mentioned), unto the party of the second part, its successors and assigns forever, all and singular the following described property:

FIRST—All and singular the following real property, or interests in real property, owned in fee, all situate in the State of Kentucky:

(1) That certain tract or parcel of land, lying in the County of Greenup and State of Kentucky, and described as follows:

Begining at a stake on Laurel Street at corner of alley along Morton's Addition to the Town of Greenup opposite N. E. corner of Lot No. 1 of said Addition; thence N. with Laurel Street 32 feet to a stake; thence Westwardly paralleling with alley on Lot 1 to 9 of Morton's Addition 57 feet; thence in a Southerly direction paralleling with Laurel Street to alley; thence with alley to the place of beginning.

(2) That certain piece or parcel of land, lying and being in the Town of Chinville, Greenup County, Kentucky, and more particularly described as follows:

Beginning at an iron pin in the West line of J. K. McQuinston's property N. 65½ W. 120 feet from a post at the corner of Greenup Avenue and county road; thence with said line, which line is also East line of Greenup Avenue, N. 65½ W. 12 feet to an iron pin; thence N. 24½ E. 15 feet to an iron pin; thence S. 65½ E. 12 feet to an iron pin; thence S. 24½ W. 15 feet to the place of beginning, containing 180 square feet.

(3) That certain piece or parcel of land, lying and being in the Town of Worthington, Greenup County, Kentucky, and more particularly described as follows:

Beginning at a post at the Northwest corner of Lot No. 19; thence with the West line of said lot, S. 17 W. 15 feet to an iron pin; thence at right angles, S. 73 E. 12 feet to an iron pin; thence N. 17 E. 15 feet in the south line of county road; thence with said line N. 73 W. 12 feet to place of beginning, said lot being situated in the Southeast corner of Second Street and the county road, and containing 180 square feet.

(4) That certain tract or parcel of land situate in the Town of Louisa, County of Lawrence and State of Kentucky, described as follows:

A portion of Lot No. 8, in the Town of Louisa, Kentucky, as shown on plat made by J. C. Thomas in the case of G. F. Ross against K. F. Vinson et al., fronting on Pike Alley 30 feet and running back N. 33 degrees, 45' E. 75 feet with the west side of the proposed 15 ft. alley shown on said plat; thence S. 61 degrees, 50' W. 30 feet on back alley, said alley to be opened by H. C. Sullivan; and then running S. 33 degrees, 45' W. 75 feet from back alley line to Pike Alley; thence along Pike Alley N. 61 degrees, 50' E. 30 feet to the beginning, making a lot 30 feet by 75 feet.

(5) That certain tract or parcel of land situate in the City of Catlettsburg, County of Boyd, State of Kentucky, bounded and described as follows:

The upper or southerly half of Lot No. 32, Fry's Old Division of Catlettsburg, fronting on Center Street on the Westerly side of Center Street between Division and Main Streets; beginning at the corner of Lot No. 31, thence with the line of Center Street northerly a distance of thirty (30) feet to line dividing the said southerly half of said lot and the northerly half thereof, known as the S. Casebolt lot, and thence at right angles one hundred (100) feet to the eastery line of alley between Center and Broadway Streets and Division and Main Streets; and thence in a southerly direction with the line of said alley thirty (30) feet to the alley corner of Lot No. 31; thence at right angles and with the line of Lot No. 31 a distance of one hundred (100) feet to the westerly line of Center Street, the point of beginning.

(6) That certain tract or parcel of land, situate in the corporate limits of Catlettsburg, Boyd County, Kentucky, described as follows:

A small strip or parcel of a lot now owned by Ida R. McConnell in the corporate limits of Catlettsburg, and more particularly described in a deed from Geo. W. Stuart and

Annie B. Stuart, his wife, to Ida R. McConnell, dated April 15, 1904, recorded in Deed Book No. 40, page 330 to which reference is made for a more particular description. The space of ground hereby conveyed is 12x12 feet in dimension and is located on the East side of the above described lot at a point opposite where an alley stops at the foot of the hill which extends from Center Street south between the above described lot and Weavers Pottery. Said lot, 12 x 12 feet, is to be located fronting on the west side of said alley and located at the foot of the hill, and to be used for the erection of a small brick house thereon in which to maintain and operate a regulator for the distribution of gas from its mains to consumers, with ingress and egress to and from the same through the alley as above referred to, and to lay all pipe and connecting lines to said regulator through said alley.

(7) That certain tract of land situate in the City of Ashland, Boyd County, Kentucky, described as follows:

Lot No. 26 of Addition to the City of Ashland, made by United States Natural Gas Company and shown on plat thereof made by Thomas Boggess, C. E., October 15, 1896. Beginning at a point in Pollard Road; thence running northwesterly 52.3 feet; thence northeasterly a distance of 110 feet to Palmer Street; thence at right angles southeasterly 50 feet; thence southwesterly 125 feet to the beginning, together with all the privileges and appurtenances to the same belonging.

(8) That certain parcel or tract of land, situate near the village of Oakview, Boyd County, Kentucky, described as follows:

Beginning at the easterly line of the county road, now called Adams Street, at a point twenty (20) feet southwesterly from the northwesterly corner of the property now owned by William H. Thomas, Jr.; thence southwesterly with said line of Adams Street, and fronting thereon thirty (30) feet; and extending thence back southeasterly between lines parallel to, and twenty (20) feet distant from, the

westerly line of lot of William H. Thomas, Jr., aforesaid, one hundred and fifty-three (153) feet, more or less, to the line of lot now owned by Thomas Gallaher, being a strip or parcel thirty (30) feet in width by one hundred and fifty-three (153) feet in depth.

(9) That certain lot or parcel of land, situate in Normal, Boyd County, Kentucky, described as follows:

Beginning on the west side of the Ashland and Catlettsburg Turnpike at the southeast corner of the lot of Samuel Johnson, near a crab-apple tree, just south from Keys Creek Bridge and said Turnpike; thence a westerly course with Johnson's south line, 15 feet to a stake near a crab-apple tree; thence a southerly course parallel with the west line of the Ashland and Catlettsburg Turnpike, 12 feet to a stake; thence an easterly course parallel with Samuel Johnson's south line to the west side line of the Ashland and Catlettsburg Turnpike; thence with the west side line of the Ashland and Catlettsburg Turnpike 12 feet to the beginning, containing a plot of land fronting 12 feet on said Turnpike and running back 15 feet.

(10) Those two certain tracts of land, situate in Ashland, Boyd County, Kentucky, described as follows:

Lot No. E, situated in Ashland, Boyd County, Kentucky, described as follows: Beginning at the intersection of the south line of Greenup Avenue and the west line of the Biggs Strip; thence easterly with line of Greenup Avenue 28-2/10 feet; thence southerly, parallel to line of Biggs Strip, 150 feet; thence westerly, parallel to line of Greenup Avenue, 28-2/10 feet to the west line of the Biggs Strip; thence northerly with west line of Biggs Strip, 150 feet to beginning.

Also Lot No. F, situated in Ashland, Boyd County, Kentucky, described as follows: Beginning at the south line of Greenup Avenue, 28-2/10 feet easterly from the intersection of west line of the Biggs Strip; thence with line of Greenup Avenue, easterly 28-2/10 feet; thence southerly, parallel to lines of the Biggs Strip, 150 feet; thence westerly,

parallel to line of Greenup Avenue, 28-2/10 feet; thence northerly, parallel to line of the Biggs Strip, 150 feet to beginning.

(11) That certain parcel or tract of land, situated in the Town of Russell, Boyd County, Kentucky, described as follows:

Beginning at a point on the east line of Houston Street (Russell, Kentucky), produced, south 62° 19' west 30 feet, from where east line of Houston Street intersects the boundary line of the Means & Russell Iron Company's property; said Means & Russell Iron Company's boundary line bears south 47° 45' east and said intersection with the east line of Houston Street 63.88 feet from cross on the corner stone which marks the original corner of the Means & Russell Iron Company's property; thence south 62° 19' west 25 feet; thence south 47° 45' east 15 feet; thence north 62° 19' east 25 feet; thence north 47° 45' west 15 feet to point beginning, and containing eight thousandths (0.008) of an acre; also right to lay, maintain and operate a pipe line from above described property over property of Means & Russell Iron Company to Houston Street and the right of ingress and egress to and from same.

(12) That certain tract or parcel of land, situate in the village of Pollard, Boyd County, Kentucky, and bounded and described as follows:

On North by Lewis heirs property;
East—Public Highway;
West—by alley, or Van Lewis estate; and

On South—by lands of W. H. Lewis;
being the north part of lot purchased from Van Lewis, recorded in Deed Book No. 48, page 528, to which reference is made for a more particular description of property hereby conveyed, which lot is 10 x 142½ feet in dimension, and lying on the north side of the lot adjoining the property of Jerry Lewis heirs, to be used for the purpose of maintaining regulator sites in the operation of natural gas, etc., and the first house over such regulator shall not be erected

closer than forty-five feet of the Public Highway, with ingress and egress to and from the same.

(13) All that certain piece or parcel of land situate in Boyd County, Kentucky, and bounded and described as follows:

Commencing at an iron pin on the line between land of Eliza J. Gartrell and the public highway, said iron pin being 36° 36′ E. ninety-six and 75/100 (96-75/100) feet from a stake at corner of John M. Stapleton tract of one acre, and also corner of Eliza J. Gartrell lands; thence continuing with the above mentioned line 36° 36′ fifteen (15) feet to an iron pin; thence at right angles 53° 24′ twelve (12) feet to an iron pin; thence 36° 36′ W. fifteen (15) feet to an iron pin; thence S. 53° 24′ W. twelve (12) feet to the place of beginning.

(14) That certain tract or parcel of land in the County of Martin, State of Kentucky, in the Town of Eden, and bounded and described as follows:

Beginning at a mulberry tree standing near the present county road below where Arminta Ward now lives, and being a corner to the deed boundary lines between Arminta Ward and David Ward; thence South 43½ West 13½ feet to an iron stake in the edge of the county road; thence with said county road South 38½ East 245½ feet to an iron stake; thence North 46 East 255½ feet to an iron stake; thence North 35° 15′ West 265½ feet to an iron stake in the line of fence between Arminta Ward and David Ward; thence with the deed line between Arminta Ward and David Ward, South 43½ West 242 feet to the beginning, containing one and one-half (1½) acres, be the same more or less, but subject to the same terms and conditions as to the county road and fence as are set out in the deed from Arminta Ward to the grantors of the old United Fuel Gas Company, of date May 17, 1909, as fully and completely as if set out at length herein.

(15) All of the undivided one-half interest in the natural gas (but excepting the oil) within and underlying a

certain tract of 150 acres, more or less, a certain tract of 75 acres, more or less, and a certain tract of 35 acres, more or less, of land, all in the County of Martin and state of Kentucky, the oil and gas in which were conveyed to the former United Fuel Gas Company, predecessor of the party of the first part, by a certain deed from the United States Natural Gas Company, bearing date the 4th day of September, 1909, and recorded in the County Court Clerk's office of said Martin County, in Deed Book No. 14, at page 172.

(16) All of the undivided one-half of the natural gas (but excepting the oil) within and underlying a tract of 25 acres, more or less, of land, situate in said Martin County, Kentucky, the oil and gas in which were conveyed to the former United Fuel Gas Company, predecessor of the party of the first part, by I. T. and N. E. Fluty, by deed bearing date the 20th day of March, 1911, and recorded in the County Court Clerk's office of said Martin County in Deed Book No. 14, at page 625.

(17) All of the undivided one-half of the natural gas (but excepting the oil) within and underlying a tract of 977 acres, more or less, of land, situate in said Martin County, Kentucky, the oil and gas in which were conveyed to the former United Fuel Gas Company, predecessor of the party of the first part, Frank R. Sapp and Jennie Sapp, his wife, by deed bearing date the 3rd day of March, 1911, and recorded in the County Court Clerk's office of said Martin County in Deed Book No. 16, at page 28.

(18) The surface of that certain lot or parcel of land, known as Lot No. 4 of Block No. 4, situate in the Town of Warfield, Martin County, Kentucky, described in a deed to the former United Fuel Gas Company, predecessor of the party of the first part, from George W. Ozias et al., bearing date the 27th day of January, 1914, and recorded in the County Court Clerk's office of said Martin County in Deed Book No. 18, at page 401.

All of the foregoing described lands and interests in lands, being the lands and interests in lands (with the exceptions stated), situate in the State of Kentucky, which were conveyed to the party of the first part hereto by United Gas Company, a corporation of the State of West Virginia, by deed bearing date of 1st day of January, 1916, and recorded in the County Court Clerk's office of Greenup County, Kentucky, in Deed Book No. 47, at page 361; in Lawrence County, Kentucky, in Deed Book No. 59, at page 517, in Boyd County, Kentucky, in Deed Book No. 63, at page 230; and in Martin County, Kentucky, in Deed Book No. "E," at page 1.

(19) That certain piece or parcel of land, lying and being on the waters of Three Mile Creek, in Lawrence County, Kentucky, and more particularly described as follows:

Beginning at a stake at Three Mile Creek, N. 57-20° E. 271 feet distant from a tank site; thence N. 76-30° E. 156 feet to a stake; thence S. 77-15° E. 105 feet to a stake; thence No. 85-40° E. 103 feet to a stake; thence S. 11-00° E. 170 feet to a stake; thence S. 63-50° W. 316 feet to a stake at Three Mile Creek; thence N. 11-40° W. 170 feet to a stake; thence N. 32-00° W. 146 feet to the beginning; being the same land conveyed to the party of the first part by Jay H. Northrup, widower, of Louisa, Kentucky, (Berea College, a corporation, of Berea, Madison County, Kentucky, joining to release lien), by deed bearing date the 28th day of April, 1917, and recorded in the County Court Clerk's office of Lawrence County, in Deed Book No. 63, at page 189.

(20) That certain piece or parcel of land, lying and being on the waters of three Mile Creek, of Tug River, in Lawrence County, Kentucky, and more particularly described as follows:

Beginning at a double white oak on the dividing ridge between Tug River and Three Mile Creek, in the line of the Vancouver 8000 acre survey, thence S. 64 degrees E. 79 poles to a pitch pine (now stump), thence S. 83 E. 46 poles

to a chestnut, ironwood and dogwood, on the long branch of the waters of Three Mile, thence down said branch with its meanders to a beech beside a large rock near the mouth of said branch, thence a straight line S. 70 W. about 76 poles to a sycamore corner on Three Mile Creek on the Vancouver line, thence with said Vancouver line (which is a straight line) to the beginning, containing forty (40) acres, more or less; and being the same tract of land conveyed to the party of the first part by W. W. See et al., by deed bearing date the 4th day of December, A. D., 1918, and recorded in the County Court Clerk's office of said Lawrence County in Deed Book No. 64, at page 92.

(21) That certain piece or parcel of land, lying and being in South Ashland, Kentucky, and more particularly described as follows:

Twenty (20) feet off of the rear of Lot Number Twelve (12), in Block Number Eighteen (18), in South Ashland, Kentucky, which twenty (20) feet fronts on alley, and extends across the rear of the lot between parallel lines, the same width, for forty (40) feet, to Lot Number Thirteen (13), as designated and shown on the map of South Ashland, Kentucky; and being the same land conveyed to the party of the first part by The Park City Land Company, of Ashland, Kentucky, by deed bearing date the 13th day of May, 1919, and recorded in the office of the Clerk of the County Court of Boyd County, Kentucky, in Deed Book No. 77, at page 218.

(22) Any and all other land or interest in land, situate in the State of Kentucky, owned by the party of the first part at the date of these presents, it being understood that the oil within and underlying the tracts described under paragraphs number 15, 16 and 17, **supra**, together with other gasoline and oil property, has been heretofore conveyed by the first party to Virginian Gasoline and Oil Company, a corporation of West Virginia.

SECOND—All and singular the estates, rights, privileges and licenses vested in the first party by sundry oil and gas leases, operated and unoperated, owned by the

party of the first part, in so far as the same relate to gas and gas rights, but excepting the oil and oil rights, upon or in lands situate in the State of Kentucky, whether such leases were executed directly to the first party or to persons or corporations from or through whom the first party acquired the same by assignment or otherwise, including all of the gas wells, easing, tubing, derricks, tools, machinery and equipment in and about any such wells, owned by the party of the first part at the date hereof. An assignment will be executed by the first party to the second party contemporaneously herewith, containing a detailed description of the various leases, contracts and agreements creating the estates, rights and privileges by this paragraph granted or intended so to be.

THIRD—All and singular the gas pipe lines owned by the first party, insofar, and insofar only, as the same are situated in the State of Kentucky, the chief of which are the following:

(a) So much thereof as is laid in the State of Kentucky of that certain pipe line, heretofore known by the first party as its Line B, extending from a point near the Town of Kenova, in Wayne County, West Virginia, to a point near the Town of Inez, in the County of Martin and State of Kentucky, consisting of approximately 43.23 miles of 10-inch pipe and 0.58 miles of 8-inch pipe.

(b) So much thereof as is laid in the State of Kentucky of that certain pipe line, heretofore known by the first party as its Line F, extending from a point near the Town of Kenova, in Wayne County, West Virginia, through the State of Kentucky, to a point below Russell, Kentucky, at which point it crosses the Ohio River at a point near Hanging Rock, in Lawrence County, Ohio, and extends thence to the City of Portsmouth, Ohio, consisting of approximately 5.97 miles of 14-inch pipe and 30.51 miles of 10-inch pipe.

(c) So much thereof as is laid in the State of Kentucky of that certain pipe line, heretofore known by the first party as its Line G, extending from a point near the

Town of Kenova, Wayne County, West Virginia, into and across the State of Kentucky, crossing the Ohio River at or near the Town of Coal Grove, Ohio, and extending thence to the City of Ironton, Ohio, consisting of approximately 7.7 miles of 10-inch pipe and 5.15 miles of 8-inch pipe and 4.01 miles of 6-inch pipe.

(d) So much thereof as is laid in the State of Kentucky of that certain pipe line, heretofore known by the first party as its Line U, extending from the connection point with the line described under (b) above, near Oakview, in Boyd County, Kentucky, to and across the Ohio River into the State of Ohio at a point near the Town of New Boston, Ohio, consisting of 25.84 miles of 12-inch pipe and 1.08 miles of 10-inch pipe.

(e) So much thereof as is laid in the State of Kentucky of that certain pipe line, heretofore known by the first party as its Line B-19, extending from a point in Stonewall District, Wayne County, West Virginia, known as Belvard Measuring Station, to a point in Lawrence County, Kentucky, about three miles above the Town of Louisa, consisting of 14.85 miles of 10-inch pipe.

(f) So much thereof as is laid in the State of Kentucky of that certain pipe line, heretofore known by the first party as its Line BM-22, extending from the Town of Kermit, in Mingo County, West Virginia, to the Town of Inez, in Martin County, Kentucky, consisting of 1.51 miles of 10-inch pipe and 7.4 miles of 16-inch pipe.

(g) All other pipe lines of every character and description, used or useful for the transportation of natural gas, including the pipe lines connecting gas wells with main or trunk lines, owned by the party of the first part at the date hereof, to the extent and only to the extent that the same are situated in the State of Kentucky.

(h) All the rights of way, easements and privileges in, upon or appurtenant to lands in the State of Kentucky, authorizing the construction, maintenance, operation and removal of pipe lines, telegraph lines, telephone lines, water lines or other easements, rights or privileges vested in the party of the first part at the date hereof.

FOURTH—All of the structures, buildings, apparatus, machinery, appliances and equipment used or intended for use in or in connection with the compressor plants, measuring stations, warehouses and loose material, owned by the party of the first part at the date hereof and situate in said State of Kentucky.

FIFTH—All of the pipe lines, mains, regulators, meters, tool, furniture and equipment at and before this date used by the party of the first part in the distribution, marketing and sale of gas at various localities in the State of Kentucky, including all rights of way, licenses or privileges granted by any State or municipal authority in said State and vesting in the first party the right to occupy the public roads, streets or other public places, to the extent that the party of the second part may desire to accept and use any such rights of way, licenses or privileges.

SIXTH: Any and all other property, whether real or personal, owned by the first party at the date hereof and situated in the State of Kentucky; excepting, however, moneys, accounts receivable, bills receivable, notes or other obligations due or to become due to the first party. It is understood that the first party has heretofore conveyed to Virginian Gasoline & Oil Company, a corporation of West Virginia, all of the oil and gasoline property (as distinguished from its natural gas property) of the first party, and this indenture is intended to convey to the second party all remaining property of the first party, of every character, in the State of Kentucky, with the exception stated in this paragraph.

TOGETHER with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, and the reverions, remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the first party, at law or in equity, in or to the same; SUBJECT and subordinate, however, to the mortgage lien upon the property above described and conveyed, executed by the party of the first part to The New York Trust Company, Trustee, bearing date the 1st day of January, 1916, and recorded in each

of the four counties in which said property is situate, to secure certain bonds of the party of the first part, reference to which said mortgage and the record thereof as aforesaid, is hereby expressly made; and it is also understood and agreed that the estates, rights, privileges and licenses relating to the production and removal of natural gas, transferred, assigned and conveyed to the party of the second part under the foregoing paragraph numbered SECOND, are assigned, transferred and conveyed to said party of the second part to be held and operated in accordance with and subject to the terms of a certain Operating Agreement between the party of the first part and Virginian Gasoline & Oil Company, bearing date the 1st day of May, 1922, in which the rights of the owner of the oil interest and the owner of the gas interest, respectively, in certain oil and gas leases, are defined.

TO HAVE AND TO HOLD, all and singular the property and premises hereby conveyed or assigned, or intended so to be, unto the party of the second part, its successors and assigns, forever.

As part consideration for the foregoing conveyance, the party of the second part covenants to and with the party of the first part that it, the said party of the second part, will assume and pay to the party of the first part the equivalent of the interest and sinking fund installments accruing from and after this date on Seven Hundred and Fifty-five Thousand Dollars ($755,000.00), face amount, of the outstanding First Mortgage Bonds of the party of the first part, due and payable on the first day of January, 1936, and secured by the First Mortgage executed by the party of the first part to The New York Trust Company, Trustee, bearing date the first day of January, 1916, and recorded in said counties of Greenup, Lawrence, Boyd and Martin, in the State of Kentucky; and further, that it, the said party of the second part, will, on or before the 23rd day of February, 1923, and on or before the 23rd day of February in each year thereafter, to and including the year 1935, pay to the first party a sum of money equal to the same percentage of the sinking fund payment due under said Mortgage on account of the First Mortgage Bonds of the first

party outstanding on the first day of March, 1923, and each of said subsequent years, as the percentage of said bonds, the interest and sinking fund requirements for which are so assumed by the second party, is of said entire First Mortgage Bonds of the first party so outstanding in each of said years. The second party also covenants to pay to the first party on the 26th days of June and December, 1922, and in each subsequent year to and including the year 1935, a sum equal to the same percentage of the semi-annual interest due by the first party on the next succeeding July 1st and January 1st, respectively, on account of all its said First Mortgage Bonds at the time outstanding, as the percentage of said bonds, the interest and sinking fund requirements for which are so assumed by the second party, is of said entire outstanding issue of the first party on each of said interest-bearing dates, respectively.

IN WITNESS WHEREOF, the party of the first part has caused its corporate seal to be hereunto attached and this indenture to be signed by its President or one of its Vice-Presidents, and duly attested by its Secretary or an Assistant Secretary, and the party of the second part has likewise caused its corporate seal to be hereunto attached and this indenture to be signed by its Vice-President and duly attested by its Secretary, this the day and year first above written, all in duplicate.

UNITED FUEL GAS COMPANY,
(SEAL) (Incorporated)
By R. G. ALTIZER,
Vice-President.
Attest
M. S. FOUTS,
Secretary.

WARFIELD NATURAL GAS COMPANY,
(SEAL) (Incorporated)
By R. A. ROBERTSON,
Vice-President.
Attest
D. C. JAY,
Secretary.

Internal Revenue Stamp of $100.00 affixed to the original copy of this instrument executed in duplicate.

(Notarial Seal) (Signed) T. J. KERWIN,
Notary Public.

STATE OF WEST VIRGINIA,
COUNTY OF KANAWHA, } TO-WIT:

I, T. J. KIRWIN, a Notary Public for said County, do certify that R. G. ALTIZER personally appeared before me in my said County, and being by me duly sworn, did depose and say that he is Vice-President of United Fuel Gas Company, one of the corporations described in the writing hereto annexed, bearing date the 28th day of June, 1923, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to said writing is the corporate seal of said corporation, and that said writing was signed and sealed by him in behalf of said corporation by its authority duly given. And the said R. G. ALTIZER acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal this 28th day of June, 1923.

T. J. KIRWIN,
Notary Public.

(SEAL)

My commission expires July 31, 1925.

STATE OF WEST VIRGINIA,
COUNTY OF KANAWHA, } TO-WIT:

I, T. J. KIRWIN, a Notary Public for said County, do certify that R. A. ROBERTSON personally appeared before me in my said County, and being by me duly sworn, did depose and say that he is Vice-President of Warfield Natural Gas Company, one of the corporations described in the writing hereto annexed, bearing date the 28th day of June, 1923, authorized by said corporation to execute and acknowledge deeds and other writings of said corporation, and that the seal affixed to said writing is the corporate seal of said corporation, and that said writing was signed and sealed by him in behalf of said corporation by its authority duly given. And the said R. A. ROBERTSON acknowledged the said writing to be the act and deed of said corporation.

Given under my hand and official seal, this 28th day of June, 1923.

T. J. KIRWIN,
Notary Public.

(SEAL)

My commission expires July 31, 1925.

Exhibit E—11.

HEARING BEFORE
THE RAILROAD COMMISSION OF KENTUCKY

Frankfort, Kentucky, September 28, 1923

WARFIELD NATURAL GAS CO.,
Petitioner,
vs.
CITY OF CATLETTSBURG, et al.,
Defendants.
and
UNITED FUEL GAS CO.,
Petitioner,
vs.
CITY OF CATLETTSBURG, et al.,
Defendants.

Transcript of Evidence

HEARING BEFORE
THE RAILROAD COMMISSION OF KENTUCKY

WARFIELD NATURAL GAS CO.,
A CORPORATION OF KENTUCKY,
Petitioner,

vs.

CITY OF CATLETTSBURG, ETC.,
Defendants,

and

UNITED FUEL GAS CO.,
Petitioner,

vs.

CITY OF CATLETTSBURG, ETC.,
Defendants.

Transcript of Evidence

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HEARING BEFORE
THE RAILROAD COMMISSION OF KENTUCKY

Frankfort, Kentucky, September 28, 1923

WARFIELD NATURAL GAS COMPANY, A CORPORATION OF KENTUCKY,
Petitioner,
vs.
CITY OF CATLETTSBURG, CITY OF ASHLAND AND CITY OF LOUISA, EACH A MUNICIPAL CORPORATION OF KENTUCKY,
Defendants.
and
UNITED FUEL GAS COMPANY,
Petitioner,
vs.
CITY OF CATLETTSBURG, CITY OF ASHLAND, AND CITY OF LOUISA, EACH A MUNICIPAL CORPORATION OF KENTUCKY,
Defendants.

Transcript of Evidence

BE IT REMEMBERED, that the above causes coming on to be heard at Frankfort, Kentucky, on Friday, September 28, 1923, before the Railroad Commission of Kentucky, at a special meeting of said Commission, at which hearing Commissioners Burns and Kash were present, Commissioner Burns presiding as Chairman of the Commission, to hear the evidence on the petition and application of the Warfield Natural Gas Company for permission to increase its rates at Catlettsburg, Ashland and Louisa, the following steps in the pleadings were taken, followed by the introduction of evidence in said causes:

Appearances

For Petitioners: R. G. Altizer, of Charleston, W. Va.

For Defendant, City of Catlettsburg: V. A. Dinkle, of Catlettsburg, Ky.

For Defendant, City of Ashland: John T. Diederich, of Ashland, Ky.

For Defendant, City of Louisa: A. J. Garred, of Louisa, Ky.

For Defendant, City of Russell: D. E. Ernst, of Russell, Ky.

STEPS TAKEN IN THE PLEADINGS AT THIS TIME

JOHN T. DIEDERICH,

Counsel for the City of Ashland:

Your Honors, I wish to file on the part of the City of Catlettsburg, the City of Ashland and the City of Louisa a special demurrer, and without waiving the special demurrer, said cities file a general demurrer to the petition of the Warfield Natural Gas Company, Incorporated.

Without waiving any of those rights, we desire to file a motion to consolidate. There is a motion here on the part of the United Fuel Gas Company to revoke the order heretofore made, and we desire to consolidate for the purpose, if it comes down to trial, of consolidating the case of the Warfield Natural Gas Company with that of the United Fuel Gas Company, that they may be heard together.

R. G. ALTIZER, Counsel for the Petitioners:

I join in that motion.

JOHN T. DIEDERICH:

If our special demurrer is overruled, that would be appropriate.

We desire to file an answer to their petition, and also cross petition and counter-claim against them.

I don't know whether I set it up in my answer or not, but in their petition they pray and ask that the record heretofore

made in the case of the City of Catlettsburg, et al. vs. the United Fule Gas Company, for reduction of their rates—they ask that that record be made a part of this record here of the Warfield Natural Gas Company vs. the City of Catlettsburg, et al., and we consent for the City of Catlettsburg, City of Ashland and City of Louisa that that should be done, and that that record heretofore made should be read as evidence in this case, and we consent to that part of their prayer.

Your Honors, there is one thing that I think is admitted. It is admitted—I don't think there is any denial of it—that in the City of Ashland, probably in the Cities of Catlettsburg and Louisa, especially in the City of Ashland, there are probably two hundred applicants that desire service from this company, and this company is taking the position that they will not furnish the service for the reason that if they do not get the rate that they feel they are entitled to, they will withdraw from the state.

These people built these homes when this company was operating in the city. When this controversy came up they refused to give this service except to those that they had expressly promised it. We feel like we ought to have relief at once from that situation, and to overcome the objections that will probably be made by the gas company, in view of the fact that they may say that they are going to pull out of Ashland, Catlettsburg and Louisa and Kentucky and don't feel like spending the money and making these service connections. We feel that the commission should make an order compelling the persons receiving the service to pay for the connections, and of course if they remove, then the property would belong to the individual, and if they remain, it would be rebated out of the consumption of gas.

COMMISSIONER BURNS:

That would apply to new patrons?

JOHN T. DIEDERICH:

Yes, Sir. It is working a hardship on our people there, and I think that kind of an order would be fair to the company as well as to the people that want to take advantage of getting in gas.

COMMISSIONER BURNS:

I think it would be best possibly not to make any order in regard to this until all the evidence in the case is in. That will probably hasten the case up.

D. E. ERNST, Counsel for the City of Russel, Ky.:

Without waiving any rights with respect to these other cities, the City of Russell desires to be made a party with the others.

COMMISSIONER BURNS:

You desire to intervene?

D. E. ERNST:

Yes, Sir.

COMMISSIONER BURNS:

Let it be done.

JOHN T. DIEDERICH:

I might explain that the Town of Russell has a franchise with the United Fuel Gas Company that has two years still to run, and under their franchise the City of Russell gets the same rate that the City of Ashland gets, and on that account they claim that they are interested in this proceeding.

R. G. ALTIZER:

I object to the filing of this intervening petition.

COMMISSIONER BURNS:

Let it be filed subject to the objection and exception of counsel.

JOHN T. DIEDERICH:

There is one thing I would like to hear about, if possible, and that is about your connections in Ashland (addressing counsel for the petitioners).

COMMISSIONER BURNS:

I think we will hold up any order on that until the evidence is all in.

R. G. ALTIZER:

I would like for the following to be noted of record:

Statement for the United Fuel Gas Company and the Warfield Natural Gas Company:

The evidence which will be offered at this time on behalf of these two companies is intended both in support of the motion of the United Fuel Gas Company heretofore filed to vacate and set aside an order of the commission entered in January, 1922, in a proceeding instituted by the City of Catlettsburg and others against the United Fuel Gas Company, as well as to support the petition recently filed by the Warfield Natural Gas Company asking, in the alternative, that the rate which has been heretofore filed with the commission to be effective August 1, 1923, in the Cities of Ashland, Louisa and Catlettsburg, be approved, or that leave be given to the petitioner to withdraw from service in these municipalities.

AT THIS POINT THE HEARING OF EVIDENCE WAS BEGUN

S. S. WYER, testifying in behalf of the petitioners, being first duly sworn, testified as follows:

DIRECT EXAMINATION

By R. G. Altizer, Counsel for the Petitioners

Question 1. Please give your full name, Mr. Wyer.
Answer. Samuel S. Wyer.

2. And your residence address?
A. Columbus, Ohio.

3. What is your business?
A. Consulting engineer.

4. In any particular branch?
A. Specialize on natural gas problems.

5.—Will you please state briefly to the Commission what experience you have had in the examination and operation of the natural gas business conducted as a public utility

A.—For rather a long time I have been acting as consulting engineer for a number of operating companies in the production, transmission and distribution of natural gas and have investigated in a professional capacity about 80% of the natural gas industry of North America.

6.—By that do you mean to include Canada as well as the United?

A.—Yes.

7.—Have you at any time occupied any official position which had to do with the natural gas business conducted as a public utility or otherwise?

A.—During the war I was chief of natural gas conservation work for the United States government, consulting engineer for the Bureau of Standards and United States Bureau of Mines, and also of the Canadian Bureau of Mines.

8.—Did you not have some connection during the war with the fuel industry?

A.—Was chief of fuel gas conservation work.

9.—And in that capacity did you have occasion to investigate natural gas conditions in West Virginia and other surrounding states?

A.—Prior to taking up that I had investigated the Louisville situation, which of course involved the West Virginia end, and that investigation was used in connection with the later work on fuel administration.

10.—During your connection with the fuel administration that department had to make some investigation as to what resources existed in natural gas fields as well as other fuel sources, didn't it?

A.—Yes, sir.

11.—And you did make some investigation at that time of it?

A.—Yes, sir.

12.—Both at that time and before?

A.—Yes, sir.

13.—You have written some papers on this subject, have you not, which have been published?

A.—Yes, sir; a large number.

14.—Mention some of the principal papers of which you are the author relating to natural gas conservation

A.—A text book relating to the regulation, valuation, and depreciation of public utilities; which takes up the fundamental principles and the application of same to our present natural gas conditions: Report on minimum charge for gas rates; Report on readiness to serve charges for natural gas rates; Report on the sliding scale upward rate for natural gas service.

15.—To whom were these reports made or where published?

A.—The reports merely come out as private reports out of my own office. The Smithsonian Institution has published the report that I prepared on natural gas production, service and conservation, and also a later report on the use of manufactured gas in the home. The United States Bureau of Mines has published a report that I prepared on the correct use of natural gas in the home.

16.—What examination have you made of the gas fields of West Virginia and particularly of those of the United Fuel Gas Company of West Virginia?

A.—I have made an exhaustive investigation of the entire operating property of the United Fuel Gas Company in West Virginia, all of the property of the Standard Oil Company in West Virginia, all of the property of the Eastern Oil Company in West Virginia, all of the property of the Manufacturers' Light and Heat Company, the Keenor Oil & Gas Company's property, the Randell Gas Company, and the Natural Gas Company of West Virginia, all of West Virginia.

17.—Do the companies which you have mentioned own a considerable percentage of the gas producing property of West Virginia?

A.—They dominate the situation.

18.—So that you have examined more than half the gas producing property of West Virginia?

A.—Yes; it would be very much more than half.

19. Please tell the Commission just what has been the extent of your examination of the property of the United Fuel Gas Company, and for what purpose the examination was made?

A.—The first was the preparation of a report dated May 15, 1919, on the valuation of the natural gas property of the United Fuel Gas Company.

20. That report, I believe, covered not only its property in West Virginia but its property in Ohio and Kentucky also?

A. Correct. Then I compiled a report on the natural gas rate situation of the United Fuel Gas Company. That was dated April, 1919. Then more recently I have prepared a report on the average cost of natural gas production, transmission and distribution of the United Fuel Gas Company under date of August 24, 1923. Then I prepared a summary of reproduction cost new of the United Fuel Gas Company as of January 1, 1920. Then a report covering the valuation of the natural gas property of the United Fuel Gas Company, as of January 1, 1920; and a statement on the natural gas situation in North-eastern Kentucky under date of August 24, 1923.

21. What did you say was the date of the first report?

A.—May 15, 1919.

22. In that report you made a valuation of the company's entire property, did you not?

A. Correct.

23. On what basis was that valuation made?

A. On the basis of using pre-war prices, that is the average prices that prevailed for about ten years prior to September, 1915. It was in September, 1915 that the first violent disturbance of the price level began.

24. And your object was to ascertain the fair value for rate-making purposes, excluding any inflated value resulting from the war or war conditions?

A.—Correct; in other words, getting the conservative value as of the then date.

25. Tell the Commission just how you went about that. Did you make your estimate of value in consideration of the property itself, its condition, or did you go to the books of the

company and learn what it cost and what securities had been issued, etc.?

A.—I stipulated when arrangements were made for my services that I should not be furnished any information regarding book cost or purchase price from former owners or the book value of security issues. The valuation in question was made by taking a list of quantities, which were of course prepared by the company's own men, and then applying my own unit prices to those quantities, we thus got the total fair value of the property as a whole.

26. It amounted then to a practical inventory of the physical property?

A. Correct. The inventory was prepared under my direction. I didn't do the actual work of taking the inventory.

27. You did use methods for checking it?

A. Yes, sir. Went over it and checked it in a large number of places, enough to satisfy me that the inventory was correct and that the property was there.

28. Please state to the Commission what you ascertained to be the fair value of that property as of the date which you have mentioned.

A. As of January 1, 1919, the value was placed at fifty-two million dollars, in round numbers.

29. You have since learned what the actual investment was at that time, have you not, or do you recall whether or not the valuation which you obtained by the method which you have stated exceeded what you later found to be the cost, or whether it was less than the cost?

A. I can't answer that right now. There have been so many comparisons made. It was entirely independent of what your own records contained.

30. You have made a later examination and valuation, have you not?

A. Yes; another one was made applying the same unit prices to the quantities that were in use on January 1, 1920. That, in round numbers, was fifty-five million dollars.

31. COMMISSIONER EUENS. Did you say that you applied the unit prices of 1915?

A. Yes, sir; the average in both cases.

32.—Over what length of years?

A.—Ten years.

33.—The ten years preceding 1915?

A.—Yes, sir.

34.—And you say that the valuation as of 1920 is fifty-five million dollars?

A.—Yes, sir.

35.—And that is arrived at in the same way?

A.—Exactly.

36.—For the average prices prevailing immediately preceding 1915; that is, for ten years immediately preceding 1915?

A.—Correct.

37.—COMMISSIONER BURNS: The average unit cost arrived at over that period of ten years would be less than that computed during more recent years?

A.—Oh, yes; we have the comparison which will be used in just a moment.

38.—Mr. Wyer, I wish you would take your document called "Valuation of Natural Gas Property of United Fuel Gas Company in West Virginia, Kentucky and Ohio as of January 1, 1920." Page one contains a letter of transmittal to the company of this valuation, which letter is dated August 15, 1923, and signed by you. In that letter you state briefly, do you not, the method which you have used?

A.—I do, and on pages six to fifteen, inclusive, the detailed methods used in developing the unit prices.

39.—I wish you would tell the Commission now briefly just how you obtained your average prices of these various units for a period of ten years previous to 1915? What data did you have with which to work?

A.—In connection with the various investigations that I have made and in connection with the actual consulting work for the various operating companies, I have kept elaborate records as to actual cost conditions of all kinds of material entering into a natural gas plant. Those records were examined and of course the conclusions drawn are all based on those actual records. Then on the matter of labor cost I have the actual cost sheets of a large number of main and field lines laid in

West Virginia, some in Kentucky, some in Ohio, where we had the size of the line, length, cost of the pipe, cost of the fittings, cost of the labor, cost of the hauling; also cost of miscellaneous expenses, cost of right-of-way, and the detailed cost for a given piece of line down to the exact cent, and all of those actual cost records, based on actual operating experience, were used in arriving at the average fair price that we used and applied to the inventory. In other words, the unit prices that were used for either material or labor reflected the actual operating experience of many thousands of natural gas construction operations covering all phases of construction work from the preliminary prospecting to the completion of the finished plant.

40. COMMISSIONER BURNS: Are those cost sheets worked out by you from your experience?

A.—Taken from actual records. We have examined a great many companies for eight or ten years where they were laying lines under my direction, and we kept cost records entirely separate and distinct so as to get a complete record as to the cost not only of the pipe but of the various elements going in. For instance, there is a record of one group representing pipe from two inches to six inches of the Hope Natural Gas Company. We merely made actual copies of cost records. This sheet represents cost of laying of pipe, refilling of trenches, cost of pipe, miscellaneous expenses, total cost, and the total per foot, and the cost for laying per foot on the basis of many thousand individual records. On this basis I have estimated the present fair value of this property, and that estimate is a reflection of actual experience in the building of plants.

41.—And all of those were made up during this ten-year period you speak of?

A. Ten or more years; some are more than ten years old. We did not just arbitrarily stop at ten years.

42. This valuation report that you made as of January 1, 1920, is embraced in a report consisting of 79 pages, is it not?

A. Correct.

43. Does that represent, in your opinion, the fair value for rate-making purposes as of January 1, 1920?

A.—It does.

COUNSEL FOR PETITIONERS: We offer this document in evidence.

ACTING CHAIRMAN BURNS OF THE COMMISSION: Let it be received.

COUNSEL FOR THE PETITIONERS: I will ask that it be marked, "Wyer No. 1."

THE DEFENDANTS HERE STIPULATED, BY COUNSEL, THAT THEY RESERVED THE RIGHT TO OBJECT TO ANY PART OF THE TESTIMONY OF THIS RECORD.

44.—This valuation as of January 1, 1920, includes a very large item as the value of the gas itself owned by the company either in fee or under leasehold assets, does it not?

A.—It does.

45.—The company owns quite a large boundary of natural gas in fee?

A.—Yes, that is set up separately.

46.—But the larger part of the gas producing lands that it holds are held under natural gas leases in the usual form, are they not?

A.—Yes.

47.—Which, as a rule, give to the lessee the right to exhaust all the gas on the under-lying property?

A.—Correct.

48.—And except for the fact that the leaseholder is charged with a rental royalty on the land, it vests the right of the leaseholder to the land to the same extent as one in fee?

A.—Exactly.

49.—What can you say as to the value of this company's gas producing territory as compared with other territory in West Virginia or elsewhere with which you are familiar?

A.—As the company is situated to-day the field property of the United Fuel Gas Company, I would regard as the most valuable natural gas property in the world.

50.—You have mentioned how you arrived at the value which you used of the various classes of physical properties by taking the average pre-war prices. You could not do that with leasehold estates or other estates in the gas itself?

A.—No.

51.—Tell the Commission how you arrived at the value which you placed on this gas land, gas leasehold!

A.—The leasehold is merely regarded as the right to prospect for gas under the surface and it was regarded solely as a property right very similar to a water right in a public utility case, and the estimate was put on as to what that right was worth as property and solely from the viewpoint of property and what the property could easily be sold for in the open market. There are very many gas leases bought and sold in the gas market and prices are available for inspection on those transfers. I had before me records of rather a large number of actual transfers of properties between a willing buyer and a willing seller, where the transaction was made in competition in the open market, and with that as a basis I fixed two average land prices to apply to two groups.

52.—You mentioned two groups of leases. You divided them into two classes for your purposes, did you?

A.—Yes; I merely followed the operating custom of the company which happens to be substantially the custom of the industry—dividing the leases or rights into operated and unoperated groups. The term reserved or undeveloped is sometimes applied to the unoperated group, and the company's classification used in this valuation is that all tracts under approximately one hundred acres in area with producing wells are considered operated acreage, and in the case of tracts having much over one hundred acres in area approximately one hundred acres of the tract is assigned as operated acreage for each producing well on the tract, and then the balance is taken as reserve acreage, which is held for future drilling, and for protective purposes. Sometimes a well should be protected by not drilling around it, and it is more important in that case to protect the well than to drill.

53.—In your professional work you have had occasion to know something about what demand there is for gas territory at this time, have you not?

A.—Yes, sir.

54.—And what that situation was as of January 1, 1920?

A.—Correct.

55.—In arriving at this sum, which you give as the value of these leaseholds and other assets in gas, what test did you apply, what rule did you use?

A.—In the first place, I took the matter of general property values, of sale of leases, as I have explained; and, secondly, knowing the market conditions, knowing how easy it would be for the company to sell this entire property to other companies that are badly in need of gas, I took that into consideration. This situation is brought about for the reason that the demand for natural gas to-day is greater than the available supply, and there is a very marked demand for natural gas in other states, and even for industries. There are many industries that could very easily pay much more than the domestic consumers are paying, for natural gas; even at 50 cents gas is cheaper than any other fuel they could buy.

56.—Are not the natural gas fields of West Virginia connected with direct pipe lines to Ohio, Indiana, Kentucky and Pennsylvania?

A.—Yes, sir.

57.—And such great cities as Pittsburg, Cincinnati and Columbus are all connected with the West Virginia field?

A.—They are. All of the gas used at Cleveland, Akron, Youngstown, Toledo, etc., comes directly from West Virginia.

58.—Is there now and was there on January 1, 1920, such a situation with reference to the demand for natural gas in these places where it had been introduced and the supply so far as known that is available, which would enable you to say that there was a market value for this gas producing property brought about by the fact that the companies who have undertaken to serve these various cities were unable to get the gas to do so at this time?

A.—Yes, because I investigated many of these gas shortage situations.

59.—Was it your opinion that the property of this gas company in question could have been sold in bulk to one or

more purchasers at a price equal to at least what you have given it in this report?

A.—It could. I know that this could be done either for public utility service or for private industrial use.

60.—So far you have dealt with the value as of January 1, 1920. There have been considerable additions made to the property since that time, have there not?

A.—Yes.

61.—And of course there have been other changes. What can you say as to the value to-day of this property as compared with the property at the date of your report, January 1, 1920?

A.—It is larger to-day than it was then.

62.—Do you make that answer after allowing for the fact that a certain percentage of the gas has been used up since that time?

A.—Yes, sir; it is worth more to-day; gas lands are in greater demand generally now than they were then.

63.—So that you will say at least that the value to-day is more than it was on January 1, 1920?

A.—Correct.

64.—Can you give us any approximate idea of how much more?

A.—It would be rather dangerous to attempt to give an opinion here without some calculation. That could be done, however, very easily.

65.—You have, however, made an estimate of the cost to reproduce new the plant of this company as of January 1, 1920?

A.—Yes.

66.—To what class of property does this reproduction estimate apply?

A.—To all classes except the natural gas leases, because they could not be reproduced.

67.—How does your reproduction cost new as of January 1, 1920, compare with the value which was given in your report as of January 1, 1920, based on average pre-war prices?

A.—Using the same quantities and as of January 1, 1920, the pre-war price basis, the cost in round numbers would be

fifty-five million dollars, and the reproduction cost new as of the same date sixty eight million dollars, in round numbers.

68. What difference, if any, do you make in the value of the natural gas leases?

A.—I made no difference, taking the position that the amount of depreciation had been more than offset by the appreciation in value.

69.—So that your calculation in reproduction cost new as of January 1, 1920, really relates to value of property other than the gas leases?

A.—Correct.

70.—And you used the same values as of January 1, 1920?

A.—Correct.

71.—Please explain to the Commission how you arrived at your reproduction cost new as of January 1, 1920, other than of leases.

A.—We took list of quantities as of that date and applied net prices that reflected the market conditions for about six to nine months previous to the arbitrary quantity date that we took. In other words, the price conditions that we have there represent the price situation that you would be face to face with if you started to build a plant of that sort at that particular time, January 1, 1920.

72.—How do the prices of this sort of property, exclusive of the leases, compare to-day with the prices which you used as of January 1, 1920?

A.—Some prices to-day are substantially the same and others are considerably less.

73.—Can you give us an idea of how much would be deducted from this reproduction valuation cost of January 1, 1920, to represent the decline in prices since that time?

A.—The trouble is the decline has been on quantities that represent an insignificant part of the total. The compressors and pipe cost substantially the same to-day as in 1920.

74.—Can you give us a figure that would be the largest sum that you think possible that they could have declined since 1920?

A.—If you would take—if you would make a very careful study of prices to-day that sixty-eight million might drop down to about sixty-five or sixty-six million.

75.—You think it is safe to say that it would not go below that?

A.—Would not go below sixty-five.

76.—You have prepared a typewritten statement called "Summary of Reproduction Cost New of United Fuel Gas Company in West Virginia, Kentucky and Ohio as of January 1, 1920"?

A.—I have.

COUNSEL FOR THE PETITIONERS—ADDRESSING THE COMMISSION: I offer that in evidence and will ask that it be marked "Wyer No. 2."

To the offering of this exhibit counsel for the defendant, the city of Ashland, object and excepted.

CHAIRMAN OF THE COMMISSION: Let it be filed, subject to the exceptions make and taken.

77.—In the valuation of public utility property for rate making purposes, it is customary, is it not, to deduct from reproduction cost new whatever sum, if any, is necessary to represent the accrued depreciation of the property as of the date of the valuation?

A.—Correct.

78.—Your statement of the reproduction cost new as of January 1, 1920, which has just been filed, does not show on its face, does it, any reduction of any sum for accrued depreciation?

A.—Does not.

79.—What have you to say as to that with reference to this report?

A.—My judgment is that the accrued depreciation on the property as a whole, without attempting to fix it on any particular part, would be about 20% of the physical parts.

80.—Would that 20% be deductible also from the leasehold valuation that you include?

A.—No; taking in round numbers, thirty-two million from the total sixty-eight million would leave, in round num-

bers, thirty-six million. Now you would take one-fifth of that off, or, in round numbers, seven million two hundred thousand and deduct that seven million two hundred thousand from the sixty-eight million.

81.—CHAIRMAN OF THE COMMISSION: Is the item of exhaustion contained in that 20%?

A.—The present fair value aspect takes care of that feature.

82.—Then, in your opinion, the reproduction cost new of this property which you have shown in your report should not be diminished by more than seven million two hundred thousand dollars to represent accrued depreciation?

A.—Correct.

83.—Do you mean that as of this time or as of January 1, 1920? Would there be any great difference now?

A.—Substantially the same. I would view it as of substantially the present time.

84.—Are we to understand then, that in your opinion the value of the property is something like sixty-eight million, minus seven million two hundred thousand dollars at this time?

A.—Yes.

85.—COMMISSIONER BURNS: How did you arrive at that 20% figure?

A.—That is only a matter of judgment; there is no way it can be computed; no formula that can be used.

86.—What can you say of the efficiency of the construction of this plant of the United Fuel Gas Company as a whole? Has it been well constructed for the purposes for which it is designed?

A.—It has; good material used throughout for the purpose.

87.—Well designed?

A.—It was.

87.—Was it constructed with economy?

A.—It was.

89.—You have also made a calculation, have you not, of the cost of producing, transporting and distributing natural gas

to the consumers thereof from fields of the United Fuel Gas Company to the cities of Ashland, Catlettsburg, Louisa and Russell in the State of Kentucky?

A.—It is merely the average; does not refer to any particular town.

90.—You have made it for the purposes of this case, though?

A.—Correct.

91.—Which applies to the rates in those particular towns?

A.—Yes.

92.—Please explain the method you used in arriving at this

A.—All of the fundamental data used are given in section one of the sheet. The rate base is taken at sixty million dollars. The rate of return for sinking fund to maintain the integrity of the property, legal rate of interest and profit commensurate with the hazard is taken at 16%. The operating expense for the year 1982 is taken at $4,137,770.00.

93.—Were the operating expenses used actual expenses?

A.—That is actual experience of the company.

94.—COMMISSIONER BURNS: Operating in all fields?

A.—Yes; their property as a whole. And the production property is taken as 72.5% of the whole; transmission at 21.5%; and distribution property at 6%, and the various operating expenses are then allocated, and the rate of return is also allocated on the basis of distribution of the property. The total amount of money needed to take care of the production, transmission and distribution is divided by the amount of sales that can be looked forward to, giving an average production cost of 23 cents, an average transmission cost of 5 cents, and an average distribution cost, on the basis of domestic gas only, of 15 cents.

95.—So that it would require a rate of 43 cents per thousand cubic feet in order to give to the company a return of 16% upon the value of its property, which 16% in your estimate is used to include not only a reasonable profit but also depreciation in property, which you stated was the percent necessary to maintain the integrity of the property and for amortization?

A.—Yes, sir.

96.—You say that is the average price which the company should receive for the gas itself from consumers. What would you say as to whether or not the rate that it should receive at Ashland, Catlettsburg, Louisa and Russell compares with the rate that it receives at other places where it sells gas? In other words, can those places be supplied any more cheaply, or are they above the average?

A.—Above the average, because the distances are greater.

97.—COMMISSIONER BURNS: What proportion of that 16¢, would be net after taking out those charges?

A.—6¢, for the sinking fund to maintain the integrity of the property, 6¢, for the legal rate of interest, and 4¢, for the profit. Interest is not profit; it is merely rental or hire for the use of the money; merely getting 6¢, isn't getting a profit on the property.

COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, HERE INTERPOSED A FORMAL OBJECTION TO ALL OF THE FOREGOING AND EXCEPTED TO SAME BEING INTRODUCED INTO THE RECORD.

98. You were about to explain why the cities in Kentucky which are involved in this proceeding are not below the average in the cost of supplying gas, and you were about to refer to a map.

A.—The map we have here shows the interstate relationship of Kentucky, Ohio and West Virginia as to the transmission of West Virginia natural gas to the Warfield Natural Gas Company, and that the towns in North-eastern Kentucky, that is, Catlettsburg, Ashland, Louisa and Russell, get all of their gas from West Virginia; that is, there is not any Kentucky gas going into those towns. The arrows adjacent to the pipe line show the direction of the gas flow, and that all of the gas used in all of the towns in North-eastern Kentucky comes from the main producing center of the United Fuel Gas Company, in West Virginia.

99.—Does the United Fuel Gas Company transport this gas so consumed in Ashland and the other Kentucky cities referred to as far or farther than it transports the average gas they sell?

A.—The transmission distance to Catlettsburg, or any of the towns in North-eastern Kentucky would be considerably above the average, almost up to the maximum.

100.—The cost for the service in these centers is comparable to the cost in other forwarding points, is it not?

A.—Yes; the cost of production and distribution would be the same.

101.—At any event there would be no reason for furnishing gas at Catlettsburg, Ashland, Louisa or Russell for cheaper than the average price that it sells gas at retail at all points?

A.—No, sir. This map does not show the West Virginia towns. It merely shows the interstate commerce situation.

102.—As a matter of fact, the company in question disposes of less than half of its gas to direct consumers, does it not, and sells the major portion at wholesale to other companies, who transport it to Ohio and Pennsylvania?

A.—Yes, it is primarily a wholesaling company.

R. G. ALTIZER: I want to offer in evidence this statement entitled "Average Cost of Natural Gas Production, Transmission and Distribution of the United Fuel Gas Company, Computed by Samuel S. Wyer, Consulting Engineer, Hartman Bldg., Columbus, Ohio, August 24, 1923," and ask that it be marked "Wyer No. 3."

OBJECTION BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND TO THE FILING OF THIS EXHIBIT.

COMMISSIONER BURNS: Let it be filed subject to objections and exceptions of counsel for the defendant.

COUNSEL FOR THE PETITIONERS, ADDRESSING THE COMMISSIONERS: We also offer in evidence, your Honors, please, this map, which the witness referred to, entitled "Interstate Transmission of West Virginia Natural Gas to Warfield Natural Gas Company in Kentucky, as of July 1, 1923," and ask that that be marked "Wyer No. 4."

OBJECTION TO FILING OF SAME BY COUNSEL THE DEFENDANT, CITY OF ASHLAND.

COMMISSIONER BURNS: Let it be filed subject to objections and exceptions of counsel for the defendant.

104.—It is set up in the petition in this case, Mr. Wyer, that on June 28, 1923, the United Fuel Gas Company, conveyed all of the property which it owned in the State of Kentucky to a company incorporated in Kentucky known as the Warfield Natural Gas Company and that this conveyance included all of the pipe lines and equipment used in supplying gas to these four Kentucky cities. The valuations to which you referred this morning took no account of that separation?

A.—They did not.

105—And you were speaking of the property as a whole before this conveyance had been made?

A.—Correct.

106.—It is also set up in the record of this case that in connection with the conveyance of this Kentucky Property on June 28, 1923, a contract was entered into between the United Fuel Gas Company and the purchasing company, the Warfield Natural Gas Company, by which the former agreed to sell to the latter such natural gas as the selling company might have available for consumption in these Kentucky cities at a price of thirty cents per thousand cubic feet, the gas to be delivered on the West Virginia side of the Big Sandy River near the boundary line between West Virginia and Kentucky. It is set up in this proceeding that the rate is thirty cents per thousand cubic feet at wholesale for the first year and thereafter is to be determined by the methods specified in the contract, and if those methods fail, by arbitration. Knowing as you do the location and classification of this property, can you express an opinion as to whether or not this contract rate of thirty cents for this gas at wholesale is a reasonable rate compared with the rates for similar service under similar conditions elsewhere?

COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND: We object to the question, for the reason that the market price of gas at the point of delivery is not a criterion of the price to be charged consumers in the defendant cities, and for the reason that the value of similar service in

other cities is no criterion upon which to place the value of the services to the consumers in the defendant cities.

COMMISSIONER BURNS: Let him answer, subject to objections and exceptions of defendant.

A.—It is reasonable.

107.—Why do you answer that it is reasonable?

A.—Knowing the general price situation and the surrounding territory all over the State of Ohio, and knowing the cost situation, average transmission cost, etc., and knowing first, how all the retail prices have gone up on all the fields and markets that are taking gas out of this same field under similar conditions—

OBJECTION MADE BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, TO THE FOREGOING ANSWER, AND EXCEPTION SAVED TO THE ADMISSION OF SAME.

108.—The Warfield Natural Gas Company immediately after accepting this conveyance and entering into this contract, filed with this Commission and posted elsewhere a sechedule of rates which it would charge for gas in these Kentucky cities on and after August 1, 1923; and the rate so filed in such schedules was one of 45 cents gross, subject to a discount of five cents per thousand for prompt payment. Will you give the Commission your opinion as to whether or not that is a reasonable rate to domestic consumers.

OBJECTION MADE BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, TO THE FOREGOING QUESTION, AND EXCEPTION SAVED TO THE ADMISSION OF THE ANSWER THERETO.

A.—It is a reasonable rate

109.—Tell the Commission how that compares with customary rates for similar service in other places supplied with the same quality of gas from the same places of production

OBJECTION MADE BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, TO THE FOREGOING QUESTION

COMMISSIONER BURNS: And under like conditions

A.—In general it is less.

110.—There is more West Virginia gas consumed in Ohio than in any other state, is there not?

A.—Yes; 73% of the people burning gas there burn natural gas.

111.—What is the next highest gas producing state?

A.—Pennsylvania.

OBJECTION BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, TO THE QUESTION AND ANSWER NOT RULED ON.

112.—Tell the Commission what is the average gas rate for natural gas where the service is comparable to the service here at Ashland and at other cities?

COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND: We object to this question, because the price of gas in Ohio and Pennsylvania has no relation to the price of gas that is charged to consumers in defendant cities.

COMMISSIONER BURNS: That would depend upon whether conditions are the same.

COUNSELF FOR THE PETITIONERS: It may have more bearing than counsel thinks. A part of our application here in the alternative is that if you can't allow this rate, a very moderate rate, we will withdraw this gas and take it where it can be sold for a profit.

COMMISSIONER BURNS: I think the Commission would like to know what the rates are not only in West Virginia but in all territories. The fact is we would like to know the rates that are being charged by competing companies.

COUNSEL FOR THE PETITIONERS: That is what I meant, generally speaking.

113.—Go ahead, Mr. Wyer.

A.—Take a group of one hundred towns in Ohio that are drawing from the same supply as the towns in North-eastern

Kentucky, the average rate for the entire hundred towns for domestic supply was as follows:

1917	29 cents
1918	30 cents
1919	33 cents
1920	38 cents
1921	42 cents
1922	45 cents

For instance, Columbus, Ohio, which uses West Virginia gas very largely, coming from the same field, is paying on a sliding scale upward rate that averages about 57½ cents.

COMMISSIONER BURNS: These rates that you have just named, are they being charged by competing companies?

A. There is no such thing as competition except in the Pittsburgh area. There is of course intense competition in getting the gas. But take the Columbus situation. The rates there were increased from thirty cents net to the sliding scale upward, starting in at 45 cents and going up to 65, and averaging about 57½. The general situation all over Ohio is that the natural gas rates are going up very rapidly. 73% of Ohio's population is burning natural gas, and the intensive campaign that has been put on there for a number of years has taught the public the value of natural gas and that it is worth twice what manufactured gas is worth. The average price of manufactured gas is $1.25 per thousand, and in Ohio it is worth what the public will have to pay, $2.50 per thousand.

114. COMMISSIONER BURNS: Are these rates in these fields fixed by Commissions?

A. Some by Commissions and some by consent.

115. Commissioner Burns, I think, wanted to know whether these rates that you speak of in the hundred towns are rates of the United Fuel Gas Company or rates of other companies.

A. Other companies. For one, the Ohio Fuel Supply Company, which gets its supply from the United Fuel Gas Co.

116. But it is an entirely separate company?

A. Yes, sir.

117.—The United Fuel Gas Company sells very little gas direct to Ohio?

A.—Yes, sir; very little.

118.—Very small direct consumption in Ohio?

A.—Correct.

COMMISSIONER BURNS: If you have available, I would like to have copies of the orders of these other Commissions fixing these rates.

COUNSEL FOR THE PETITIONER: We can get them for you.

119.—There has been very little litigation in Ohio on the fair price of gas, hasn't there?

A.—Very little.

120.—The United Fuel Gas Company itself had a proceeding before the Public Utility Commission of Ohio, did it not?

A.—It did.

121.—And from the decision of the Commission the City of Ironton prosecuted an appeal to the Supreme Court?

A.—Yes, sir.

122.—They are public records?

A.—They are.

123.—What is the rate to New Boston, Ohio?

A.—Forty cents.

124.—That was fixed some three years ago?

A.—Yes.

125.—You say these hundred towns that you speak of are ones supplies by the Ohio Fuel Supply Company?

A.—Yes, sir.

126.—You know about that cost, don't you? That company is a client of yours, is it not?

A.—Yes, sir; have had actual operating contact with that company for a long time.

127.—There are a number of gas companies operating in Ohio having no connection with either of these, are there not?

A.—Yes, the East Ohio Gas Company, operating in the Eastern part of Ohio and supplying Cleveland, Akron, Youngstown, Warren, etc.

128.—Tell the Commission what the natural gas rate is at Cleveland, and just what has happened there with reference to it in the last year!

A.—There has been considerable litigation in Cleveland. The case came up to the Supreme Court as to whether they could withdraw their service. It was decided that they could withdraw, and on May 1st, last, or a few days before they would have shut off under this judicial decree, the gas company and the city got together and agreed on a temporary rate that is very much larger than the original rate.

129.—More or less than 45 cents?

A.—More.

130.—Explain to the Commission what you mean by upward sliding scale, and state to what extent that rate is used to-day

A.—The term "sliding scale," "upward sliding rate," is applied to a rate and schedule where a fixed price or rate is applied to say the first five thousand cubic feet of gas per month. Then the second five thousand is at a higher rate, and the third at a still higher rate. It has been misunderstood somewhat, due to the fact that the alleged conservation features have been over-stressed. It costs much more from a service viewpoint to render service to a domestic consumer that has a peak load than it does to one that has a uniform consumption service. The one comes during certain seasons when heating is demanded, and there is no demand for this equipment or this gas during over half of the year; therefore, the peak load service actually costs more than for the normal, actual service of cooking and hot water heating, and the fundamental principle of the sliding scale is to so allocate the rates that each will bear his proportionate cost of the service, and by its operation it enables a large majority of the consumers in a given town who are relatively small users to get the gas at a lower rate, a lower cost per thousand than the man who uses gas for house-heating purposes and who should pay more in the very nature of the case. There is a large number of these schedules in operation in Ohio.

131.—Is there a tendency to put in such rates in Ohio?

A.—I should say so.

132.—Are such cities as Columbus and Cincinnati doing that?

A.—Yes, sir; also Warren, Akron and a number of towns there are operating under that sort of a schedule.

133.—So that the more gas they use in a month the higher rate they pay per thousand?

A.—Yes; there is considerable variation in the tables. For instances, Columbus pays 45 cents for the first ten thousand, 55 for the second ten and 65 for all above, making an average rate of 57½ cents.

134.—Generally speaking, are the natural gas rates in Ohio higher or lower than this proposed rate in Ashland and the other towns around there?

A.—Very much higher and going up. The time is only shortly away when they will be paying a dollar a thousand and they will be begging for it at that price.

135.—Why do you say that?

A.—Because the demand is greater than the supply. There isn't much left in Ohio, and West Virginia is the only one that they can go to, and with an educated public willing to pay what it is worth, you are going to get a situation where you will have towns actually competing with each other, bidding against each other for the gas.

136.—Will that produce profiteering?

A.—It will not.

137.—Is there any difference in the cost of furnishing it to-day?

A.—Dollar natural gas means no more profit than forty cent gas does. The average family could easily get the service on half the gas it normally uses, and if correct use ideas were applied intensively could get it on one-third. That does not mean increased compensation to the company, it does mean that the company will be enabled to maintain substantially the same total income from the smaller volume of sales, and that the increase in prices can barely be made to keep pace with increased cost of production in the field.

138.—You don't mean that because of the necessity of these people that they are going to make a dollar where they have been making forty cents?

A.—No; the total revenue would be actually decreased.

139.—What changes are occurring in transporting and producing gas in West Virginia?

A.—The total cost is going up and you have less gas to sell, so that the increased cost must be borne by the smaller volume that goes to ultimate market.

140.—Of course increased cost of labor, etc., that applies to all classes of work?

A.—Yes, sir.

141.—But a very peculiar reason for this rise is what?

A.—The commodity price situation has nothing in particular to do with the price of gas. If every commodity went down natural gas would have to go up if the public got the service, because it is only by going up that you have profitable operation and only by profit that you have somebody going out to hunt for gas.

142.—Why does it cost more to produce and transport it to-day than before?

A.—The volume coming in is less.

143.—So that you have to drill more wells for the same volume—to secure the same volume?

A.—Yes; and the rock pressure is lower, so that you have to in many cases immediately begin the use of compressors to get pressure enough to get gas into the line; and not only that, but you have to have compressors in transit all along the line and more and more so. Compressors must be used at the various stations en route.

144.—You were referring to the rates in Ohio this morning. How do the rates in Pennsylvania compare with those in Ohio?

A.—They have all gone up in the last two years and are practically on the same level with the Ohio rates.

145.—The rates in West Virginia, generally speaking, are lower?

A.—Yes, sir; however, there are some rates in Northeastern and Northern West Virginia that are considerably in excess of the forty-cent rate. Rowlesburg is paying 47 cents and Ridgely 53 cents.

146.—COMMISSIONER BURNS: For gas out of this same field?

A.—Farther East but not from the same lines.

147.—But from the same general field?

A.—Yes.

148.—You know, do you not, about the act of the Legislature of West Virginia intended to prevent and greatly restrict the exportation of gas from the state?

A.—I do.

149.—Commonly referred to as the "Steppo Act?"

A.—Yes.

150.—I believe you were a witness in that case for the State of Ohio?

A.—Yes; and for the State of Pennsylvania.

151.—And prepared a great deal of data upon which the case was rested?

A.—I did prepare the engineering defense.

152.—That act was quite recently held unconstitutional, was it not?

A.—It was.

153.—Did that act and the similar procedure of the authorities of Pennsylvania have any bearing upon the lower rate which has existed in West Virginia previous to this time?

A.—The act itself is merely an expression of the public opinion of West Virginia which has been expressed many times, "The Lord made the gas for us—West Virginians," and they don't want it taken out of the State.

154.—Do you think, due to the peculiar conditions in West Virginia, and the public opinion, based upon the fact that it is a local product, do you think that makes the comparison of the rates in West Virginia with those in adjoining states a fair comparison?

A.—It is not. West Virginia consumers are the most wasteful consumers in the world, because gas is cheaper than matches there. I have seen gas burning in West Virginia for heating purposes in a house in May, with all the windows and all the doors open. During the war we had more trouble with West Virginia about this than all the other states put together.

155.—You have also prepared another document in addition to those you introduced this morning, which you call "The Natural Gas Situation in Northeastern Kentucky," have you not?

A.—Correct.

156.—Have you a copy of that with you?

A.—Only my file copy.

157.—The title of the pamphlet is "Northeastern Kentucky Natural Gas Situation."

A.—Correct.

158.—State briefly what that shows, that pamphlet

A.—Summarizes the sources of natural gas; gives arithmetical values showing the rate of decline; arithmetical ratios showing increase in cost; shows the worth of natural gas; calls attention to the waste on the consumer's premises; shows how the law of diminishing returns applies to natural gas, bringing out that increase in rates does not bring an increase in income; bringing out that the consumer is more interested in continuity of service in the future than in mere present prices; the prices that are paid in other markets receiving West Virginia gas; and summarizing the things in the crux of the natural gas question; outlining the high points in gas heating house service and bringing out the peak load condition; showing that capital cannot be commandeered, but that it must be induced to go into gas enterprises by making mining operations profitable if we are to get gas; and closing with a short statement of what we must do to get gas service.

159.—In that connection you said this morning that your calculation showing that 43-cent average rate was necessary in order to enable this company to earn 16% to cover profit, interest and depreciation?

A.—Yes, sir.

160.—People don't go into the natural gas business or the oil business with the idea of making 6%, 7%, or 8%, do they?

A.—They would not go into it at all unless they expected to make more than that.

161.—Could a company situated such as the company under investigation obtain money from the sale of its securities for the purpose of enlarging its plant if it were known in advance

to the investor that the commission regulating the earnings would limit them to 8% or 10%, and the investor would have to take all the risk?

A.—Could not.

162.—As a matter of fact, people go into that business very much like they do into a gambling business, don't they?

A.—It is a gambling business.

163.—And in the hope of making large money?

A.—Correct.

164.—And with the knowledge that more money has been put in the business than has been taken out?

A.—Yes.

165.—And that its life is limited to a comparatively short duration?

A.—Yes; because there is no regeneration to the gas, and when it is gone it is gone forever.

166.—And realizing that in giving your every-day service you are disposing of a part of your capital?

A.—Yes, sir.

167.—And shortening its life that much.

A.—Yes, sir.

R. G. ALTIZER: I offer in evidence now this pamphlet entitled "Northeastern Kentucky Natural Gas Situation," by Samuel S. Wyer, Consulting Engineer, Hartman Building, Columbus, Ohio. August 24, 1923, and will mark it "Wyer No. 5."

OBJECTION MADE BY COUNSEL FOR THE DEFENDANT CITY OF ASHLAND TO THE INTRODUCTION OF THIS EXHIBIT.

COMMISSIONER BURNS: Let it be received, subject to the objections and exceptions of counsel.

168.—I would like to ask you in detail, Mr. Wyer, about the contents of your various exhibits, but I won't, for the reason that our time is limited here, but I do want to ask you this, are the statements of fact contained in these exhibits, outside of any argumentative statements, made of your own knowledge, and are they correct?

A.—They are.

169.—You personally made this investigation with your assistants?

A.—Yes, sir.

170.—And it was in your charge?

A.—Yes, sir.

COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, HERE STATED THAT HE WISHED A GENERAL OBJECTION ENTERED OF RECORD TO ALL THE EXHIBITS INTRODUCED BY THE WITNESS, S. S. WYER.

CROSS EXAMINATION

By John T. Diederich

Counsel for the Defendant, City of Ashland

171.—Mr. Wyer, who are you employed by?

A.—The United Fuel Gas Co.

172.—Have you ever represented cities?

A.—Yes.

173.—In securing proper rates, natural gas rates, for those cities?

A.—Yes, sir.

174.—What cities?

A.—Columbus, Ohio; Johnsonburg, Penn.; Hamilton, Ontario; Medicine Hat, Alberta, Canada.

175.—Are you also employed by the Ohio Fuel Supply Co.?

A.—I am.

176.—And they are part owners of the United Fuel Gas Co.?

A.—Yes.

177.—And are the so-called parent owners of the company?

A.—Yes.

178.—Are you acquainted with the relationship of the Ohio Fuel Supply Co., with the United Fuel Gas Co.?

A.—No first-hand information.

R. G. ALTIZER, Counsel for the Petitioners: I can tel you about that, your Honors. This capital stock of the United Fuel Gas Co., is owned entirely by two other corporations, one being the Columbia Gas & Electric Co., owning 51%, and the other being the Ohio Fuel Supply Co., owning 49%. Each of these has additional holdings.

179.—Has the United Fuel Gas Co. any other subsidiary that it owns or controls?

A.—The Warfield Natural Gas Co.

180.—Mr. Wyer, you are acquainted with the geographic location of Huntington, with reference to Huntington, Kenova, Ceredo, and Fort Gay, with relation to North-eastern Kentucky?

A.—Yes, sir.

181.—Are you acquainted with the rates that are now in effect in West Virginia in Huntington, Kenova and Ceredo?

A.—In a general way; can verify it by looking at my notes.

COUNSEL FOR THE PETITIONERS: I can also give you that, Mr. Diederich. The rate at Huntington is 26 cents domestic and one cent less to industrials, and Kenova and Ceredo are the same.

182.—Did you testify before the Public Service Commission of West Virginia in what is known as case No. 505?

A.—Could not say by the number.

183.—What about case No. 485?

A.—Could not say by number. I testified there several years ago.

184.—How many times did you testify before the Public Service Commission of West Virginia in behalf of the United Fuel Gas Company, if you remember?

A.—I could not answer that from memory now. I didn't testify in this recent case, the last one.

185.—Did you testify in the case before that?

A.—I could not say.

186.—Did you read the opinion of the Public Service Commission of West Virginia, of date December 19, 1919, by George R. C. Wiles, Chairman?

A.—Yes.

187.—Did you testify before that Commission in regard to the rate that should be charged in West Virginia?

A.—I could not answer now as to whether I testified in that particular case or not.

188.—Did you testify before the Commission in that case relative to how you arrived at the valuation of property acreage under leaseholds and unoperated acreage?

A.—Yes, sir.

189—Did the Public Service Commission of West Virginia adopt the theory upon which you—

A.—They did not.

190.—Did they disregard it?

A.—They disregarded the facts. That didn't change the facts. The value is there.

191.—Are you acquainted with the last decisions of the Public Service Commission of West Virginia?

A.—I have not read the whole thing.

COUNSEL FOR DEFENDANT, CITY OF ASHLAND, Addressing the Commission: If there is no objection I want to put into the record the opinions in the cases of West Virginia Public Service Commission numbered 585, 845 and 1251.

OBJECTION TO THE ABOVE BY COUNSEL FOR THE PETITIONERS UPON THE GROUND THAT IT IS IRRELEVANT AND INCOMPETENT.

COMMISSIONER BURNS: Let them be considered in evidence, subject to objections and exceptions.

192.—I want to ask you, Mr. Wyer, if it is not a fact that the majority of the public service commissions of this country do not determine the rate to be fixed by taking into consideration all the operating expense, a sum sufficient as reserve for depreciation, and a fair return on the fair value of the property—that it makes the rate on?

A.—Yes, sir; and that has to consider the element of hazard in the business also.

193.—In your testimony on direct examination, if I gathered right, you testified that you fixed the value of these operated acres at $300.00 per acre?

A.—Correct.

194.—How did you come to fix that value at that sum?

A.—Only a matter of judgment; no fixed rule about it at all. To illustrate, just as you get half a dozen Kentucky horsemen out here to look at a horse and they fix the value on that horse at five thousand dollars; judgment fixes the value on the horse as a whole and his value to the owner, but there is nothing in the valuation that you can reduce to an arithmetical calculation.

195.—I believe you stated on direct examination that that was the amount of money that you could get for these operated acres if you were selling them to some large industrial consumer or if you were selling them to a utility company?

A.—Correct.

196.—Did you disregard the fact that the acreage on the United Fuel Gas Company is owned by the United Fuel Gas Company as a public service corporation?

A.—That didn't enter into it at all; it is operated. We are not interested here in arbitrary rules of valuation.

197.—Did you take into consideration, in fixing the value of this acreage, the earnings or the value of the profit on each thousand cubic feet of gas?

A.—No, sir; but this was taken into consideration with the value we fixed on the assumption that an earning could be arrived at; of course all value is based on earnings.

198.—Now if the United Fuel Gas Company were able to sell their gas at one dollar per thousand cubic feet, what, in your judgment, would be the value of this acreage that you now fix at $300.00 per acre?

A.—No more than it is now?

199.—Why?

A.—For the simple reason that under the law of diminishing returns the total income of the company at one dollar per thousand would be less than if it sold in the neighborhood of 35 cents a thousand. They would have longer life to off-set

that difference, because the gas would be used more carefully and would raise the level of gas in the field; but dollar gas does not mean bringing in or bearing larger profits; but means more stable service and a longer time to use it.

200.—If it is available for a longer time it will earn its owners money for a longer time?

A.—Yes; and of course they can afford to take gas out and operate small wells that they cannot afford to operate if the price is very low. So that the total amount of gas removed under a dollar program would be much more than what it would be under say a thirty cents program.

201.—You spoke of gambling, and I know it to be a fact that you are referring to any one that might want to buy in the undertaking.

A.—Anybody that goes into the gas business is gambling. They take that risk and always a long chance.

202.—Then when you fix the value of this acreage at $300.00 per acre were you certain about the value of that acreage?

A.—Certainly not; some of it is worth more, some worth less; merely average figure that is applied to all the operated acreage.

COMMISSIONER BURNS: Referring back to the offer in evidence of the public service opinions of the State of West Virginia, the Commission is of the opinion that they might be of some value in the way of impeachment in them, in whatever tends to impeach the witness in any manner.

S. S. WYER: In that connection, please, your Honors, the Chairman of that Commission, George R. C. Wiles, wrote this opinion, and is now off of the Commission and as counsel for the United Fuel Gas Company in their last case, No. 1251, before the Commission, he completely repudiated the idea that he expressed while on the Commission, that a leasehold did not have value, when he appeared before the same Commission as counsel for the United Fuel Gas Company, and insisted that the value that I gave as the value of these properties should be the basis of their finding, as I had previously contended.

AND FURTHER THE WITNESS SAYETH NOT.

W. J. HIGHTOWER, introduced as a witness in behalf of the Petitioners, being first duly sworn, testified as follows:

DIRECT EXAMINATION

By R. G. Altizer,

Counsel for the Petitioners

1.—What is your name?

A.—W. J. Hightower.

1.—And where is your residence?

A.—Charleston, W. Va.

3.—What is your occupation? In what capacity are you connected with the United Fuel Gas Company?

A.—Assistant Treasurer.

4.—How long have you been acting in that capacity?

A.—Little over three years.

5.—How long have you been connected with the company?

A.—About ten years; perhaps a little longer.

6.—During that period were you in the accounting department all the time?

A.—Yes, sir.

7.—You are familiar with its books of account, are you not?

A.—Yes, sir.

8.—And you have prepared some statements from the books of the company at my request, have you not?

A.—Yes, sir.

9.—I will ask you to take the statement entitled "Price Paid for Gas Purchased," and tell the Commission about what part of the total gas sold by this company is purchased by it from other purchasers, and then what was the average price paid to such other purchasers at the time of the former hearing before this Commission and what is the average price being paid at this time.

A.—We purchase about 25%, a little less than 25%, of our entire output.

10.—What was the average price during the year 1921 when the testimony was taken here before?

A.—0468 cents.

11. What is the average price since December 31, 1921?

A. .0797 cents.

12. That gas is purchased at the wells at the point of production?

A. Yes, sir.

13. And the selling parties have no transportation cost?

A. No, sir.

14. Will you please file that statement and mark it "Hightower No. 1."

A. I will.

15. Some time during the year 1921, when the case was up here before, a statement was introduced here of the amount of the investment of the United Fuel Gas Company in its gas property. Have you prepared a statement of that investment as of a later date?

A. Yes, sir, as of June 30, 1923.

16. Was that the latest date you could get a statement from you books?

A. Yes, sir.

17. This statement is not strictly an investment statement, as I said before, but is a statement of capital account, is it not?

A. Yes, sir.

18. How was it arrived at?

A. Taking the cost or book value plus the appraised value of the acreage?

19. Everything except the acreage is actual cash cost, is it not?

A. Yes, sir.

20. And to the acreage is added the additional sum as the result of appraisals?

A. Yes, sir.

21. Who made that appraisal?

A. Mr. S. S. Wyer, Dr. I. C. White and Mr. John Davidson.

22. Who is Dr. I. C. White?

A. Nationally known geologist who is the head of that department in the University of West Virginia.

23.—He is the State Geologist of the State of West Virginia and has been for some ten or more years?

A.—Yes, sir; fifteen years.

24.—What is the amount of this capital account as of June 30, 1923?

A.—$58,665,910.48.

25.—Is that the capital account as shown on your books on that date?

A.—Yes, sir.

26.—What part of that represents the increase in value of acreage added by this appraisal?

A.—A little over thirty-one million dollars.

27.—Will you offer that statement in evidence, marking it "Hightower No. 2?"

A.—I will.

OBJECTION BY COUNSEL FOR THE CITY OF ASHLAND TO THE FILING OF SAID EXHIBIT.

CHAIRMAN BURNS: Let it be filed, subject to the exceptions and objections of counsel.

28.—Since the Commission heard this preceding case this United Fuel Gas Co. has made some additional expenditures for additions and betterments to its plant, has it not?

A.—Yes, sir.

29.—Have you a statement showing the additions to its gas property alone?

A.—I have.

30.—What is the total amount of those expenditures from July 31, 1921 to June 30, 1923?

A.—$1,969,928.22.

31.—Your statement shows the various items of those expenditures, does it not?

A.—Yes, sir; with the exception of the retirements, which we do not show in detail.

32.—This is intended to show expenditures and not retirements, is it not?

A.—Well, the point is the amount spent is represented by the increased investment plus the retirement, and the

detailed statement shows only increased investment in detail and the retirement as a lump sum, which is represented by the difference of the two figures as shown on the two statements.

33.—And this is taken from items on your books?

A.—Yes, sir.

34.—And it is correct?

A.—Yes, sir.

35.—I will ask you to file that as a part of your evidence, marking it "Hightower No. 3."

OBJECTION BY COUNSEL FOR THE CITY OF ASHLAND TO THE FILING OF SAID EXHIBIT No. 3.

CHAIRMAN BURNS: Let it be filed, subject to the objections and exceptions of counsel.

30.—You also have a statement of gas sales and expenses for the year ending June 30, 1923, have you not?

A.—Yes, sir.

31.—And you deduct the expenses from the gross receipts and find a sum representing what you term "Net Gas Earnings" before subtracting any sum for Depletion and Depreciation?

A.—Yes, sir.

32.—I will ask you to file that as your exhibit, marking it "Hightower No. 4."

OBJECTION BY COUNSEL FOR THE DEFENDANT CITY OF ASHLAND, TO THE FILING OF SAID EXHIBIT "HIGHTOWER No. 4."

CHAIRMAN BURNS: Let it be filed, subject to the objections and exceptions of counsel.

33.—There has been considerable addition each year in investment in compressor stations and a considerable increase in the annual cost of operating compressor stations, has there not?

A.—Yes, sir.

34.—Have you prepared a statement of the investment and annual operating expenses of compressor stations over a period of years?

A.—Yes, sir.

35.—What years?

A.—1914 to 1922, inclusive.

36.—What was the investment for the year ending December 31, 1914?

A.—$276,117.97.

37.—Operating expenses for that year were what?

A.—$25,150.62.

38.—What was the investment in that class of construction for the year ending December 31, 1922?

A.—$2,666,867.32.

39.—And the operating expenses for that year were what?

A.—$457,490.34.

40.—Your statement shows a gradual increase both for investment and expenses for the years in question, does it not?

A.—Yes, sir.

41.—I will ask you to file that as your exhibit, marking it "Hightower No. 5."

A.—I will.

OBJECTION BY COUNSEL FOR THE DEFENDANT CITY OF ASHLAND, TO THE FILING OF THIS EXHIBIT No. 5.

CHAIRMAN BURNS.—Let it be filed, subject to the objections and exceptions of counsel.

42.—Did you prepare a statement showing the gas consumption in these four cities respectively, Catlettsburg, Ashland, Louisa and Russell for the past several years?

A.—Yes, sir.

43.—You show it for the years 1921 and 1922 and then for the year ending June 30, 1923, do you not?

A.—Yes, sir.

44.—That is the consumption in each of these cities respectively for both domestic and industrial use, is it not?

A.—Yes, sir.

45.—I will ask that you also file that as a part of your evidence, marking it "Hightower No. 6."

OBJECTION BY COUNSEL FOR THE DEFENDANT CITY OF ASHLAND, TO THE FILING OF THIS EXHIBIT No. 6.

CHAIRMAN BURNS: Let it be filed, subject to the objections and exceptions of counsel.

46.—You also prepared a statement showing the total number of domestic consumers for the year 1922, in each of the four cities in question, did you not?

A.—Yes, sir.

47.—What else does that statement show?

A.—The average amount received from each consumer.

48.—The average amount received in Ashland was somewhat more than in any one of the other cities, was it not?

A.—Yes, sir.

49.—And in Russell was less?

A.—Yes, sir.

49.—I will ask you to file that, marking it "Hightower No. 7."

OBJECTION BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, TO THE FILING OF THIS EXHIBIT No. 7

CHAIRMAN BURNS: Let it be filed, subject to the objections and exceptions of counsel.

50.—Did you prepare a statement showing the actual investment of the United Fuel Gas Company before the sale of this property in the several distribution plants in Ashland, Catlettsburg, Louisa and Russell?

A.—I did.

51.—This represents *book* value only? Represents no investment outside the city limits?

A.—No, sir; well, of course, there may be a little outside of the city limits.

52.—Sometimes there are a few consumers outside the corporate limits, you mean?

A.—Yes, sir.

53.—I will ask that you file this statement as a part of your evidence, marking it "Hightower No. 8."

OBJECTION BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, TO THE FILING OF THIS EXHIBIT No. 8.

CHAIRMAN BURNS: Let it be filed, subject to the objections and exceptions of counsel.

54.—Where does the gas come from that is now supplied by the Warfield Natural Gas Company in Catlettsburg?

A.—From West Virginia from what is known as our Clendennan field.

55.—That is some distance back in West Virginia, is it not?

A.—Approximately 100 miles. The fields are North-east of Charleston.

56.—The Warfield Natural Gas Company as successor to United Fuel Gas Company, also has some gas wells in Kentucky, has it not?

A.—Yes, sir.

57.—Any part of that go to any one of these four cities?

A.—No, sir.

58.—What disposition is made of it?

A.—It is furnished to Louisville, Lexington and Frankfort through the connecting pipe lines of the L. G. & E. Co. and Central Kentucky Natural Gas Co.

59.—So far as the Warfield Company is concerned it is sold near the point of production?

A.—Yes, sir.

60.—And by those purchasers is transported to destination?

A.—Yes, sir.

61.—Those contracts for purchase were made years ago?

A.—Yes, sir.

62.—And that gas is not available for Ashland or any one of these cities involved in this controversy?

A.—No, sir.

63.—Have you prepared a statement showing the amount of annual production of gas from this Kentucky producing property?

A.—Yes, sir.

64.—Even if it were available, is it sufficient to supply the demands at Ashland?

A.—No, sir.

65.—Your statement shows the total quantity of gas produced from wells in Kentucky for each of the years 1921 and 1922 and for the first seven months in 1923?

A.—Yes, sir.

66.—And in no one of those periods was it sufficient to meet the consumption in these four cities, was it?

A.—No, sir.

67.—Will you please file that as your exhibit, marking it "Hightower No. 9."

A.—I will.

OBJECTION BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, TO THE FILING OF THE ABOVE EXHIBIT.

CHAIRMAN BURNS: Let it be filed, subject to the objections and exceptions of counsel.

68.—You also prepared a statement showing the rate of annual return for the year ending June 30, 1923, on the part of the gas property which you assigned to these four cities, Ashland, Catlettsburg, Louisa and Russell?

A.—I did.

69.—Please tell the Commission how you arrived at the percentage of the total property which was assignable to or chargeable against the consumption in these four Kentucky cities.

A.—I took the peak load delivery of gas to the cities of Ashland and Catlettsburg and then increased the average deliveries for that particular month for Louisa and Russell proportionately.

70.—You have a daily measurement of the gas which goes into Ashland and Catlettsburg, have you not?

A.—Yes, sir.

71.—You have no daily measurement at Louisa or Russell, have you?

A.—No, sir.

72.—All you have at Louisa and Russell is the combined meter readings at the end of the month?

A.—Yes, sir.

73.—And having the actual measurements at Catlettsburg and Ashland, you took the highest for the year?

A.—Yes, sir.

74.—And you found a similar figure for Louisa and Russell bearing the same relation to their average deliveries as the peak load in Catlettsburg and Ashland did to their average deliveries?

A.—Yes, sir.

75.—On that basis what rate of return was the company earning on its capital account during the year ending June 30, 1922?

A.—Ashland and Catlettsburg, 13.8%.

Louisa, 9.5%.

Russell, 7.6%.

76.—That is before deducting any sum for Depletion and Depreciation and Amortization?

A.—Yes, sir.

77.—I will ask you to file this exhibit, marking it "Hightower No. 10."

A.—I will.

OBJECTION BY COUNSEL FOR THE DEFENDANT, CITY OF ASHLAND, TO THE FILING OF SAID EXHIBIT No. 10.

CHAIRMAN BURNS: Let it be filed, subject to the objections and exceptions of counsel.

78.—COMMISSIONER KASH: Is the gas cheaper across the river at Fort Gay than it is at Louisa and Catlettsburg?

A.—It is, but we can't help that. It is West Virginia regulations.

79.—Is not that rather the result of strict compliance with the regulations of the Public Service Commission of West Virginia?

A.—No, sir; I don't think so. We have complied just as strictly here. They take that attitude about it and we have no control over it.

JOHN T. DIEDERICH: We desire to reserve the right to cross examine Mr. Hightower when we take our own testimony later on.

R. G. ALTIZER: We have no objection to that.

AND FURTHER THE WITNESS SAYETH NOT.

This was all the evidence given in the above case at this time.

RAILROAD COMMISSION,
STATE OF KENTUCKY:

I, HARRY G. BRIGHT, do certify that I was appointed Official Stenographer, pro tem, for the Kentucky Railroad Commission to take the evidence in the foregoing cases of WARFIELD NATURAL GAS CO., A CORPORATION OF KENTUCKY, vs. CITY OF CATLETTSBURG, CITY OF ASHLAND, AND CITY OF LOUISA, EACH A MUNICIPAL CORPORATION OF KENTUCKY, AND UNITED FUEL GAS COMPANY vs. SAME, heard before the Railroad Commission of Kentucky at a Special Meeting of said Commission, held in Frankfort on Friday, September 28, 1923; and that the foregoing pages constitute a true, correct and accurate transcript of all the evidence introduced and heard, and offered to be introduced and rejected; and said transcript contains all the exceptions, objections and avowals concerning the same at the time made or saved, as well as all papers and exhibits offered to be or used, or rejected, as evidence in the said case.

In Testimony Whereof, Witness My Hand, this the 9th Day of October, 1923.

HARRY G. BRIGHT,
Official Stenographer, pro tem,
Railroad Commission of Kentucky.

COPY TO:

R. G. Altizer, Charleston, W. Va.

John T. Diederich, Ashland, Ky.

W. H. Weiss, 145 W. 6th St., Cincinnati, Ohio.

Exhibit E—12.

BEFORE THE

RAILROAD COMMISSION

OF

THE COMMONWEALTH OF KENTUCKY

WARFIELD NATURAL GAS CO.

vs.

CITY OF CATLETTSBURG, ET AL.

UNITED FUEL GAS COMPANY

vs.

CITY OF CATLETTSBURG, ET AL.

Docket No. 204

REPORT

On Natural Gas Rates on Behalf of the Cities of Catlettsburg, Ashland, Louisa and Russell, Kentucky

W. H. WEISS, Engineer.

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W. H. WEISS
CONSULTING ENGINEER
618 Dwight Building
KANSAS CITY, MISSOURI

Cincinnati, Ohio.
November 8, 1923.

CITY OF CATLETTSBURG, KY.,
Vernon A. Dinkle, Esq., City Atty.,

CITY OF ASHLAND, KY.,
John T. Diederich, Esq., City Atty.,

CITY OF LOUISA, KY.,
A. J. Garred, Esq., City Atty.,

CITY OF RUSSELL, KY.,
Delmar Ernst, Esq., City Atty.,

Dear Sirs:

Pursuant to your request and working under the direction of the above named attorneys as representing your cities, we have made the investigation as directed, in connection with a matter pending before the Railroad Commission of the Commonwealth of Kentucky, in case No. 204, Warfield Natural Gas Co., Petitioners, v. City of Catlettsburg, et al., and United Fuel Gas Co. v. City of Catlettsburg, et al., and we submit herewith our report.

A brief historical sketch of the United Fuel Gas Co., for convenience, hereinafter referred to as the company, and its properties and the frequent applications made by it to the Public Service Commission of West Virginia for permission to increase its rates and charges for natural gas service will add considerable information and be of value to a proper discussion of the problem of today.

The United Fuel Gas Co., as at present organized, has its head office at Charleston, W. Va., and began its public

utilities existence in 1909, by the purchase and consolidation of the gas producing properties and distributing system of various companies doing business in the West Virginia field. Among these companies were the Hope Natural Gas Co., the Fisher Oil Co., the Charleston Natural Gas Co. and the United States Natural Gas Co; the properties of all these companies, which were purchased and consolidated, except the last named, consisted of operated and unoperated leaseholds, wells and materials. The property of the United States Natural Gas Co., in addition, consisted of practically all of the distributing systems of the present United Fuel Gas Co., including all those of the cities of Catlettsburg, Ashland, Louisa and Russell, Ky., it being the principal part of the property acquired by the United Fuel Gas Co. at that time. A map descriptive of the property acquired as it is operated in West Virginia, Kentucky and Ohio, is shown by a map which formed a part of the report and exhibit made by us and filed in case No. 13 before the Railroad Commission of Kentucky in 1921.

In a report made by the statistician of the Public Service Commission of West Virginia in 1917, in case No. 585, before said Commission, it is shown that the cost for the transfer of the property of the United States Natural Gas Co. was $2,081,250.00 in cash and the assumption by the purchaser, the United Fuel Gas Co., of the outstanding bonds of the United States Natural Gas Co. and its subsidiaries, amounting to $2,700,500.00; the cash consideration being equivalent to 75% of the par value of the outstanding capital stock of the United States Natural Gas Co. In said report it is further stated that the total cost of the properties of the United States Natural Gas Co. did not exceed $2,200,000, or considerably less than the amount of the bonds assumed by the United Fuel Gas Co.; and that the stock of the United States Natural Gas Co. was, therefore, practically all bonus stock; and that the cash consideration paid for the transfer to the United Fuel Gas Company was practically all profit to the stockholders of the United States Natural Gas Co. ($2,081,250.00). From this it would appear that the purchaser, United Fuel Gas Co., in addition

to the purchase price for the actual physical property and distributing system of the United States Natural Gas Co., paid as a bonus to that company for its intangible assets, which, considering the fact that it controlled the distributing system, must have consisted largely of its franchises, say, from over $2,500,000, which being the estimated value of the franchises so acquired is not to be considered for rate-making purposes.

Shortly after acquiring the property of the various companies above mentioned, the capital stock of the United Fuel Gas Co. outstanding was increased to $6,000,000.00. Upon this in 1915, or six years after the consolidation of the companies, a stock dividend of 50% was issued, and, in addition thereto a cash dividend of 6% for the current year was declared and paid. In 1917 the company paid a cash dividend of 17% upon its outstanding capital stock, namely, $9,000,000.00, and on or about the close of 1916, an additional stock dividend of $1,000,000.00 was issued. It appears, then, that for the first seven years of the life of the company (1909-1915, inclusive) the applicant paid upon its capital stock dividends in cash and stock equivalent to 56%. It continued to pay dividends thereafter, and for details of stock and cash dividends declared and paid respectively thereafter, reference is made to the table setting forth the same, which is to be found in this report.

The Public Service Commission of West Virginia was established by law in 1913. On May 21, 1917, case No. 585, the United Fuel Gas Co. applied to the Public Service Commission of West Virginia for an increase of rates for natural gas at Huntington and Charleston, W. Va., and some smaller communities. The issues were elaborately prepared and tried out before the Commission by both sides to the controversy, the company being represented by counsel, engineers and experts, and the cities of Huntington, Charleston, et al., were represented by counsel and aided by engineer. The opinion in said case by Wiles, Commissioner, was handed down on February 28, 1918, and a full report thereof is to be found in P. U. R. 1918 C, 193. It is an elaborate and instructive discussion of the whole subject

and lays down basic principles for the determination of the questions at issue, among others, the adoption by the Commission of original cost or actual investment, but excluding therefrom about 50% of the unoperated gas leaseholds, and deducting from the operating expenses of the gas department 50% of the net earnings of the gasoline department, as representing the fair value of the gas used in the manufacture of gasoline. The improvements in the production of gasoline by the absorption process since 1917 have been great, as shown by the following table which gives the production of gasoline per million cubic feet of gas to date:

1917	151 gallons
1918	187 "
1919	261 "
1920	267 "
1921	309 "
1922	334 "

Based upon the actual investment or original cost of the property, less one-half of the unoperated gas leaseholds or acreage, and less 15% accrued depreciation, the Commission found the fair value or rate base to be $17,750,080.

On December 21, 1918, the company again filed a petition to the Public Service Commission of West Virginia for permission to increase natural gas rates (stated by counsel for protestants to have been the fourth such application including one application for rehearing within four years' time last past). This application became case No. 845 on the docket of the Public Service Commission of West Virginia. It was decided December 19, 1919, opinion by Wiles, Commissioner, and is reported in full in P. U. R. 1920 C 583. The company had increased its investment from December 31, 1919, or an increase of $4,907,592.89. As of December 31, 1918, the company added to its capital investment the sum of $31,778,111.42, as being in addition to the sum of $22,881,969.34 its actual investment in its gas property as of that date. This addition to capital was made by the company upon the theory that the value of its leaseholds and

gas producing territory, by reason of gas discoveries in the course of their developments had increased that sum in addition to the actual investment cost, as set forth upon its books of $6,597,224.91.

The company's witness in said case, Mr. S. S. Wyer, engineer placed an appraisal of the company's gas property as of January 1, 1919, but dated May 15, 1919, upon the replacement or reproduction theory, and placed a market or exchange value upon the company's gas leaseholds and gas producing property of $29,860,500.00, or $23,263,276.00 more than the investment cost, based upon $300.00 per acre for the operated acreage, and $100.00 per acre upon 20% of the unoperated acreage, or that portion which he regarded as gas producing territory, upon his opinion that it would sell for that or a greater amount in the open market from a willing seller to a willing buyer; and valued the company's property other than the gas acreage on the replacement or reproduction theory on the claimed basis of average unit prices for the ten year period prior to September 1, 1915. Mr. Wyer fixed as the value of the company's property for rate making, including 10% for Going Value and $800,000 for working capital as $53,125,928. Dr. White, the State Geologist, also testified to the effect that the gas acreage, including the value of the producing wells drilled thereon, was $42,000,000.00. He arrived at his valuation by assuming that a certain percentage of the company's acreage, would produce a given number of a million cubic feet of gas ranging from ten million to as low as two million per acre. He further assumed that the company was then earning at its then rates a profit of 6 cents per M. cubic feet upon the gas produced and sold by it, and that it would earn an equal amount upon the gas yet remaining in the ground, and estimated what said acreage would ultimately produce before it became exhausted. After making certain allowances for depreciation in operated acreage, he arrived at the figure above named.

Another witness, John Davidson, testified to a valuation of $32,771,770.00, by assuming that of the total operated and unoperated acreage held by the company, 135,500

acres was good gas producing territory that would yield from eight to ten million cubic feet per acre, and further assuming that the company was making a profit of about 3½%, per M. cubic feet per acre, from gas said acreage would ultimately yield, and upon this basis he fixed the value of 137,500 acres so selected at $250.00 per acre, but depreciated the operated acreage $5,687,400.00, or 40% for depletion. He estimated the remaining developed territory of 402,417 acres to be worth $10.00 per acre. This witness gave as his opinion that the company's gas acreage was worth an additional $10,000,000.00 on account of its value for the extraction of gasoline from gas contained therein.

The engineer for the protestants, Cities of Charleston, Huntington, W. Va., et al., fixed the value of the property of the company for rate making at $25,838,891.11.

The commission carefully considered all the evidence with reference to the company's contention for market or exchange value of its leaseholds or gas acreage and territory as well as the legal questions arising thereon and refused to allow the appraised value claimed by the company, saying: (P. U. R. 1920 C p. 605)

> "Looking at the whole matter broadly and without undertaking to fix the value upon the separate items of applicant's property, but considering it as an inseparable whole and giving such weight as seems just and right to the investment cost and reproduction cost, new lease depreciation, including tangibles and intangible values and its property rights in the gasoline business, we are of opinion that the fair value of applicant's property, as a basis for rate making, is approximately the sum of $30,000,000."

The Commission also said at page 605, P. U. R. 1920 C:

> "No evidence has been offered to justify a change or modification of our conclusions regarding the treatment of applicant's gasoline business, and we still adhere to our opinion as ex-

pressed in case 585, that applicant's investment in its gasoline business should be excluded from its gas investment and one-half of the net profits arising therefrom credited to production expense.

We are further of the opinion that these profits should be assigned to the localities and divisions upon the basis of sales.

We are unable, from the facts presented by this record, to accurately determine what proportion, if any, of applicant's investments in gas leaseholds should be assigned to oil investment, but if both oil and gas is produced from the same lease, the investment in such leaseholds should be apportioned between the two businesses on an equitable basis."

No appeal to the Courts from this finding was taken by the company. It will be observed that the rate base of $30,000,000.00, as then fixed, was taken to be the rate base as of March 31, 1919.

In June, 1921, the company again made application to the Public Service Commission of West Virginia for permission to increase rates, which, in practical effect, was an application for a rehearing of the two former cases above mentioned, and decided by the Public Service Commission of West Virginia, namely, case No. 585, P. U. R. 1918 C, p. 193, and case No. 845, P. U. R. 1920 C, p. 593. This application of June, 1921, became No. 1251 on the docket of the Public Service Commission of West Virginia. It challenged certain findings and conclusions of the Commission in the two above named cases, and asked the same to be reviewed. This application, as were the two former applications, for increase of rates, was vigorously contested by the Huntington Chamber of Commerce, Jobbers & Manufacturers Bureau of Huntington, and Charleston Industrial Committee, represented by attorneys and aided by engineers and accountants.

The case was decided April 28, 1922, opinion by the full Commission. It is not reported in P. U. R., but appears in printed pamphlet form as Bulletin No. 70 of the Public

Service Commission of West Virginia, pp. 31 to 44, inclusive. At page 33, the Commission said:

> "The evidence presents no facts or principles that were not carefully and painstakingly considered by the Commission and passed upon in cases 585 and 845, except applicant's operating experience since the decision of case 845 in December, 1919, showing its earnings and expenses and additions to capital; the testimony of the engineer, Davis, in relation to the probable volume of gas that will be produced from applicant's developed and undeveloped gas fields; and the evidence of both the applicant and protestants in relation to the trend of the cost of materials, supplies and labor. Since the new facts presented are not of such character and effect as to justify the Commission in reversing its conclusions arrived at in the former cases, after deliberate and mature consideration of the principles involved, and since it is desirable, both from the standpoint of the utility and its consumers that there should be some degree of permanence and stability in the general principles adopted by commissions as controlling in the matter of rate regulation, the commission is of opinion to adhere generally to its findings and conclusions as announced in case No. 845, in so far as the same are applicable to the questions here involved."

At page 34 of said Bulletin, the Commission says:

> "In Case No. 845 we found the present fair Value of applicant's property to be $30,000,000. This valuation included incomplete construction, as shown in Seyffert Exhibit No. 1, filed in that case. We are now of opinion that under the principles announced in that case, the fair value of applicant's property, as fixed by the Commission, was just and reasonable. As above stated, no sufficient reason has been urged in this case to justify us in going back of the valuation thus found, and we find that the present fair value of applicant's property is the sum of $30,000,000.00, plus net additions to capital made by the applicant

since the decision of case No. 845 and not included under the head of "Incomplete Construction" in the Seyffert Exhibit No. 1, filed in that case, less accrued and earned depreciation and depletion."

On January 11, 1923, the company filed its motion in writing in which is asked that the above numbered case be set down for further hearing and investigation. The same protestants, their attorneys and accountants, opposed this application. The case was decided August 9, 1923, opinion by Lewis, Commissioner, Rider, Commissioner, concurring; Divine, Chairman, dissenting. The opinion is not published in P. U. R., but is in printed pamphlet form as Bulletin No. 82, of the Public Service Commission of West Virginia, p.p. 3 to 17, inclusive. The Commission, at page 4, said:

"No new questions have been raised in this matter since said Bulletin No. 70 was written except as to the method of allocating investment to localities and as to the change in the status of the revenue from gasoline. Each of said last mentioned matters will be hereinafter discussed."

The company presented evidence to the effect that the proper method of allocating the investment to the various communities, the peak demand should be the basis rather than the method of allocating theretofore adopted by the Commission, namely, the sales basis with little or no consideration given to the distance of transmission as more fully shown in the reports of the Commission hereinabove cited. In response thereto, the Commission, at page 15, of Bulletin No. 82, said:

"In adjusting applicant's rates the Commission is not disposed to depart from the method and manner, of assigning investment and operating expense, that were set out in said Bulletin No. 70 in this case. The question of assigning investment and general operating expense on the demand basis is one of merit but it contains many uncertain elements."

The Commission also ruled that in lieu of one-half of the net earnings derived from gasoline theretofore allowed

and deducted as the fair value of the use of the gas for gasoline extraction, only one-eighth of the gross receipts of gasoline be allowed and deducted from the gas operating expense. We shall have occasion to refer to this subject in further detail in another part of this report.

The Commission in this case established the rate base as $34,000,000.00, which was determined by taking the valuation of $30,000,000.00 fixed in case No. 845 P. U. R. 1920 C. p. 583, as of March 1, 1919, plus $4,000,000.00 added to its capital account by way of additions and betterments since March 1, 1919.

The attorneys for Huntington, W. Va., et al., being dissatisfied with the rate base established and the increase of 5c per M. cu. ft. appealed to the Supreme Court of West Virginia for a stay and revision of the findings of the Commission. Said case is numbered 5006. The company is contesting said appeal.

Upon expiration of the franchises under which the United Fuel Gas Co. operated in Catlettsburg, Ashland, and Louisa, Ky., it increased its rates for gas to the consumers in said communities, efforts by certain of these cities to sell to the company new frachises having failed, relief was sought from the legislature of the State of Kentucky, which, in 1920, passed an act delegating to the Railroad Commission of Kentucky broad powers to fix and regulate natural gas rates in cities where natural gas public utilities operated without a franchise, and in like manner to control natural gas pipe line transportation companies.

On April 13, 1920, the city of Catlettsburg filed to the Railroad Commission of Kentucky its complaint against the United Fuel Gas Co., alleging that the rates charged for natural gas by the company to it and its inhabitants were unreasonable and unjust and extortionate. The cities of Ashland and Louisa joined in said complaint, which became No. 13 on the docket of the Railroad Commission of Kentucky.

Hearing was had on the questions raised in said case in October, 1921, the complainant appearing by counsel and

its engineer witness, who filed a report and exhibit, setting forth the investment and fair value for rate making purposes of the property as a whole, as well as the fair value of the property of the company used and useful for the service in Catlettsburg, Ashland and Louisa, together with the operating revenue and expense for the year 1920, and the seven months' period of the year 1921, properly apportioned to the complainant cities; together with an exhibit of the rates then charged to the consumers in said cities. The Railroad Commission, by its order entered January 18, 1922, reduced said rates to 80% of the former rates charged, namely, from 40c per M cu. ft. for domestic use less 5c per M cu. ft., cash discount, to 32c per M cu. ft. less 5c per M cu. ft., cash discount or 27c per M cu. ft. net, if paid within the discount period; and for industrial gas service the former rates being 36c per M cu. ft. for the first 500,000 cu. ft. consumed in each calendar month, less 1c per M cu. ft., cash discount, and 31c per M cu. ft. for all over 500,000 cu. ft. consumed in each calendar month, less 1c per M cu. ft., cash discount, to 28.80 per M cu. ft. for the first 500,000 cu. ft. consumed in any calendar month in all cases, less 1c per M cu. ft., cash discount, or 27.80 per M cu. ft. net, if paid within the discount period; and for all in excess of 500 M cu. ft. consumed in any calendar month, 24.80 per M cu. ft., less 1c per M cu. ft., cash discount, if paid within the discount period, or 23.80 per M cu. ft. net, if paid within the discount period. The United Fuel Co. filed a petition for rehearing on January 26, 1922, which was heard, decided and ordered overruled, and dismissal of the company's petition was entered February 1, 1922. No appeal to the Courts, or otherwise, was taken by the company from the findings and orders of the Commission in said case, wherefore, the aforesaid reduced rates became the lawful rates to be charged to and collected from consumers in said cities until formally abrogated by the Railroad Commission of Kentucky.

On June 29, 1923, the Warfield Natural Gas Co., alleging that it had succeeded by purchase to the ownership of all the gas properties of United Fuel Gas Co. in Kentucky

on June 28, 1923, including the properties in the cities of Catlettsburg, Ashland and Louisa, and that it had entered into a contract to purchase its supply of natural gas from the United Fuel Gas Co. at 30c per M cu. ft., delivered in West Virginia, offered to file with the Railroad Commission of Kentucky schedules of increased rates for natural gas in said cities. On July 11, 1923, the United Fuel Gas Co. filed a motion before the Railroad Commission of Kentucky to revoke and set aside the order of the Railroad Commission of Kentucky theretofore made and entered January 18, 1922, as and in case No. 13 on the docket of said Commission.

On September 28, 1923, at the office of the Railroad Commission in Frankfort, Ky., a hearing was had on said application. Special demurrer to the petition of the Warfield Natural Gas Co. was filed by the defendant cities; the defendant cities also filed a motion to consolidate the case of the Warfield Natural Gas Co. with that of the United Fuel Gas Co., in order that if a trial thereon be had the same might be heard together, the petitioners joined in said motion, which was granted. Thereupon the defendant cities filed an answer and also a cross-petition; consent of the defendant cities was entered to make the record in case No. 13 (decided January 18, 1922) a part of the evidence in the instant case No. 204. The City of Russell, Ky., by counsel, then requested permission to intervene as a defendant, which was granted.

Thereupon the petitioners introduced testimony and field exhibits relating to the value of the property of the United Fuel Gas Co., its operating revenue and operating expense, as a whole, and for the defendant cities as well. Thereupon the case was continued until November 14, 1923, to enable the defendant cities to cross-examine applicant's witnesses and to offer evidence in their own behalf. Written questionaires were filed with the United Fuel Gas Co. and Warfield Natural Gas Co. by the defendants calling for certain information and data therein specifically set forth; and thereafter certain additional information and data was requested by the city attorney of Ashland, Ky.

SCOPE OF THIS REPORT

Primarily it is important that the processes of the law shall accomplish justice for the plaintiff company and for those who buy gas from it. A rate too low is as much a public detriment, in the long run, as a rate too high; and the mechanism of the law—legislative, administrative, judicial—should be required to ascertain in due course the rate which is mutually just and to prevent in actuality the imposition of any other rate. No word will be said at any point in this report, to urge that the company ought, by Commission order, to be left debarred from charging a rate fairly compensatory; the defendant cities conceive it to be their duty to place before the Commission all the facts essential to the performance of its duty to see to it that the rates are not advanced or left too high.

And since there are issues in this case of great moment to the company and to the cities defendant, namely, Ashland, Catlettsburg, Louisa and Russell, and obedient to the specific instructions of the attorneys representing said cities herein, and also, because we were informed that the Railroad Commission of Kentucky would welcome it, this report deals with the physical and financial issues, and also with the legal problems involved. This fact will, we hope, be deemed a sufficient apology for the citation of Court and Commission decisions, and the length of this report.

WARFIELD NATURAL GAS COMPANY

It was admitted by counsel for petitioners, that it owned all the stock of the Warfield Natural Gas Co., and it is assumed, therefore, that its officers and directors are nominees of the United Fuel Gas Co. or its parent corporations, namely, the Columbia Gas & Electric Co. and Ohio Fuel Supply Co., and that all of its books and accounts are kept by the United Fuel Gas Co., and that it is merely a subsidiary distributing corporation of the United Fuel Gas Co., who own and control the management and dictates its policy.

In Commonwealth v. L. & N. Ry. Co., 149 Kentucky 829, 838, the Court of Appeals of Kentucky declared:

> "If the railroad company owns a majority of the stock of any company so that it may elect its directors and dictate its policy, there can be no doubt that it controls it within the meaning of the statute."

In case No. 1246, before the Public Service Commission of West Virginia, in re: West Union Gas Co., decided December 13, 1921, P. U. R. 1922 A. p. 657, it appeared that the West Union Co. was a subsidiary of the Eastern Oil Co. The Eastern Oil Co. having formed the West Union for the purpose of operating as a separate corporate entity for the purpose of supplying the town of West Union and vicinity with gas. Both companies were owned and controlled by the same interest and operated under the same management. While they were separate legal entities, it was not contended that they represented diverse interests. At page 663, et seq., the Commission said:

> "All money required by the applicant for the development and operation of its plant is advanced by the Eastern Oil Company, and all of its earnings are paid to the Eastern Oil Company. Both companies are owned and controlled by the same interest and are operated under the same management. While they are separate legal entities, it is not contended that they represent diverse interest. In a case of this character, the bare fact that one has agreed to sell and the other to buy, at a given rate per thousand cubic feet, is not evidence of the reasonableness of said rate. The ordinary relation of buyer and seller does not obtain. There is no meeting of minds, nor contract within the ordinary meaning of the term. The Eastern Oil Company is not a party to this proceeding, nor is it a necessary party as the case now stands. It is only indirectly affected by the issues raised at this time.
>
> "It may be stated, as a general principle, that where one company contracts with another, which

it owns or controls through stock ownership or otherwise, and the reasonableness and good faith of such contract is challenged, the burden is on him who asserts said contract to establish, by competent evidence, that the same is just and reasonable. To sustain this contract the applicant has offered no evidence as to the extent and value of the property of the Eastern Oil Company, devoted to the production of the gas sold to West Union Gas Company, nor the cost of producing and delivering the gas so furnished, but contents itself with undertaking to establish the reasonableness of the rate agreed to be paid, by showing the price for gas sold by others for a like purpose under similar circumstances and conditions."

In case No. 557, before the Public Service Commission of West Virginia, filed February 28, 1917, decided January 22, 1918, P. U. R. 1918, C. p. 453, in re: West Virginia Central Gas Co., the West Virginia and Maryland Gas Co. and Northern Natural Gas Co., applied for permission to increase rates for furnishing natural gas; John B. Richards, Esq., of Buffalo, and R. G. Altizer, Esq., of Charleston, W. Va., appeared as counsel for the applicants. Petitioners alleged that their reason for making a joint application was because the Eastern Oil Co., a West Virginia corporation, was the owner of all the stock of the West Virginia Central Gas Co., were the owners of all the stock of West Virginia & Maryland Gas Co., of West Virginia, said latter company owning all the stock of the Northern Natural Gas Co., except a few shares owned by the West Virginia & Maryland Gas Co., of Maryland, and all of the stock which was owned by the West Virginia & Maryland Gas Co., of West Virginia; that all of the places served by the above named companies received their gas from the fields and wells operated by the West Virginia Central Gas Co.; and that while the accounts were kept separately, the main pipe lines and town plants were operated as one system and that the inter-corporate relationship of petitioners was such that they were each interested in the aggregate revenue, which all would be entitled to receive. Referring to the

matter just above mentioned, counsel for the applicants at page 52 to 60, of their brief, have the following to say:

> "When we came to make this application, we prepared four petitions—one the joint application under which the hearing was had, the other three separate applications of each of the several corporate applicants. The matter was taken up with the Commission with the request that they allow the joint application to be filed, if such procedure was proper. The Commission permitted us to file our joint application, and in the preparation of the exhibits and in the testimony given we have paid no attention to the separate corporations. Through the Eastern Oil Company's ownership of the West Virginia Central Gas Company's stock, and the latter's ownership of the stock of the other corporations, the entire stock ownership is traced back to the Eastern Oil Company. The legal title to the gas fields from which all the gas delivered by the various companies is produced is in the West Virginia Central Gas Company.

In the Clarksburg case, this Commission said:

> "It was argued in the final submission of the case that inasmuch as the Hope Gas Co. was a subsidiary of the Standard Oil Co. and 51 per cent of the stock of applicant was owned by the Standard Oil Co., the Commission had the right to inquire into the reasonableness of the rate charged by the Hope Gas Co. for the gas it sold to the applicant. We believe this doctrine to be sound in principle; otherwise, a producing company could organize any number of subsidiary distributing companies, retain the majority of the stock in each and charge any price it desired for gas sold by it to said subsidiary companies.
>
> "The West Virginia Central Gas Co. could have charged any price it desired to its various subsidiaries for gas, but it would be entirely immaterial as to whether any ultimate profits of such subsidiaries came to the Central Company in the form of dividends or of payments for gas purchased.

The revenues of such companies could be made to rise or fall by increasing or decreasing the price for inter-corporate sales of gas; and thus; irrespective of how fairly the price was made, there would always be suspicion on the parts of consumers that one community which was being served by a subsidiary was being exploited or vice-versa.

"There did not seem to be any valid criticism that could be directed against a plan so entirely fair as ignoring the separate corporations, substituting the real for the seeming, and presenting the whole system as one unity, as, in fact it was, both in operation and ownership.

"Let us assume that the Central Company charged the Maryland Company a certain price for gas. Piedmont and Keyser might say that it was too high, Elkins and Pasons too low, and the Commission would then have to determine as best it could, what the proper charge should be. The price fixed, which would, in fact, be but a fiction (one hand playing the other), in the light of experience or changed conditions might work an injustice to one group of towns or to the other. Substantial criticism from isolated communities might be directed against any price that the corporate officials might deem fair, and other inter-corporate charges would so complicate matters as to necessitate elaborate proof and argument concerning a moot question, the decision of which would not have the slightest value in the determination of the proper rates to be charged. These reasons, with the approval of the Commission as to the filing of the joint petition, moved us to proceed as we did, and thus far there has been no criticism from remonstrants of our manner of procedure."

The Legislature of Kentucky had declared the natural gas business in the defendant cities to be one of public concern and subject to regulation prior to the making of the alleged contract by the Warfield Natural Gas Co. to pur-

chase gas at 30c per M cu. ft. from the United Fuel Gas Co., its owner and parent.

> "One whose rights, such as they are, are subject to State restrictions cannot remove them from that power by making a contract about them."
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> Hudson County Water Co. v. McCarter, 209 U. S. 349, 357.
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> Union Dry Goods Co. v. Georgia Public Service Corp., 248 U. S. 372, 9 A. L. R. 1420.
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> Oklahoma Gas & Elec. Co. v. Oklahoma Natural Gas Co., P. U. R. 1922 C. p. 735, 205 Pac. 768.
>
> L. & N. R. R. Co. v. Crowe, 156 Ky. 27 14 A. L. R. 249.

Ohio Mining Co., et al., v. Public Utilities Commission, 106 Ohio St. 138, 140 N. E. 143, P. U. R. 1923 E. p. 180, before the Supreme Court of Ohio, came to that Court on error to review a commission order. The plaintiff in error filed a complaint before the Public Utilities Commission against the Hocking Power Company, the Athens Electric Co., and the Southern Ohio Power Company, in which plaintiffs in error alleged that they are engaged in the business of mining, shipping, and marketing coal, and are the owners and operators of coal mines situated in Ohio, and in the territory served by the defendant power companies; that the defendant power companies are public utilities engaged in the business of generating and supplying electrical energy for light, heat, and power purposes to the public and private consumers in the city of Nelsonville and Athens and in the territory contiguous thereto; that the defendant power companies own and operate a large, electrical power-producing plant at Floodwood, Ohio, and own and maintain transmission and distributing lines to numerous coal mines and other industries; that plaintiffs in error are purchasers of electric energy from the defendant power companies, paying therefor in accordance with the rates published and on file with the Public Utilities Commission, and that the rates so published, charged, and collected are unjust, un-

reasonable, unjustly discriminatory, and unjustly preferential, and in violation of law. They pray that the Commission fix and establish just and reasonable rates. Upon hearing the motion to dismiss the Southern Ohio Power Co. from the action, the Public Utilities Commission sustained the motion. The Court said:

> "The contention of the plaintiffs in error is that by reason of the fact that the capital stock of the distributing companies is owned by the producing company, the producing company is able to and does fix the price which the distributing companies, concededly public utilities, must charge other consumers, and that, unless the producing company be adjudged a public utility, and its rates and charges be subjected to regulation by the Public Utilities Commission, the Public Utilities Commission will be powerless to afford relief to the consumer, since the Public Utilities Commission is bound to allow the distributing companies a fair return upon their investment, and is limited in its inquiry to determine the rate and charge which the distribution companies shall charge the consumers to the contract price between the distributing companies and the producing company, plus each additional sums as will enable them to earn a fair return upon their investment.
>
> We do not subscribe to this theory. The Public Utilities Act provides:
>
> Section 614-12, General Code: 'Every public utility shall furnish necessary and adequate service and facilities which shall be reasonable and just, and every unjust or unreasonable charge for such service is prohibited and declared to be unlawful.' (Compare the act, "prescribing the duties and powers of the Railroad Commission, etc." approved by the Governor of Kentucky, March 22, 1920).
>
> Under this broad authority the Public Utilities Commission is authorized to make an order affecting a public utility, to remedy every unjust or unreasonable charge, and my investigate and determine whether the contracts of the distributing

companies are just and reasonable, and if it finds they are not just and reasonable, it may find the terms which would be just and reasonable, and, upon such find, base the price and charge at which such distributing companies must sell their service.

The situation, then, of the three corporations is that the property of each is owned in fact by the stockholders of the Southern Ohio Power Company; that the earnings and leases of each company inure to or fall upon the same persons; that the separate ownership of the producing company at Floodwood and the distributing companies at Athens and Nelsonville is but a fiction, and there is in fact a single ownership of all. The formal contracts of 1915, 1918, and 1920 between the producing company and the distributing companies necessarily were not made for the purpose of defining the rights between and fixing the obligations of the producing company and the distributing companies, but were made for "public consumption." The three corporations necessarily can have no separate or adverse interests, can have no controversies with each other, and no antagonistic contractual relations, any more than an individual may have such relations with himself. The separate organizations are but fictions, and exist apparently for the sole purpose of defeating the operation of the law."

Unreasonable operating expenses (as in this case the fictional fixing of the price of natural gas between themselves, "one hand paying the other," 30c per M cu. ft.) are not a part of what is meant by the cost of service. The Supreme Court of the United States, in sustaining legislative railroad rates against the allegation, which was not established, that they did not cover operating expenses in the case of Chicago and Grand Trunk Ry. Co. v. Wellman, 143 U. S. 339, 345 (1892) said:

> "It has not come to this, that the legislative power rests subservient to the discretion of any railroad corporation which may, by exorbitant or unreasonable salaries or in some other improper way transfer its earnings into what it is pleased to call operating expenses."

In view of the relationship existing between the United Fuel Gas Co. and the Warfield Natural Gas Co., it ought to be entirely immaterial to the United Fuel Gas Co. as to whether any net profit of the said subsidiaries from the sale of gas in the different cities came to it in the form of dividends, or of payments for gas purchased at a fair and just price based upon the cost of production and transmission, or, to paraphrase the statements of counsel in the brief submitted on behalf of the West Virginia Central Gas Co., et al., supra, "no valid criticism could be directed against a plan which ignores the Warfield Natural Gas Co., substituting the real for the seeming, that is, the United Fuel Gas Co., and placing the whole system as one unity, as, in fact it is, both in operation and ownership." Proceeding upon this hypothesis, we shall treat the property used and useful for supplying natural gas service in the cities of Catlettsburg, Ashland, Louisa and Russell, Ky., as a component part of the whole property of the United Fuel Gas Co., and, accordingly, proceed to develop facts that we hope may be helpful to the Commission in reaching a just and right decision of the matters in issue.

FAIR VALUE OR RATE BASE

The first factor in determining whether the rate charged or ought to be charged by a public utility is fair and reasonable, is the rate base. The evidence of the petitioner herein indicates that it will contend for rates based upon what it would cost to replace the fixed property as of the present date (cost of replacement or reproduction now, less accrued depreciation) and market or exchange value of its gas acreage or gas leaseholds, plus the addition of Going Concern value, based upon opinion evidence; thus totally ignoring the actual investment (original cost to date), as is required to be done under the doctrine of Smyth v. Ames, 169 U. S. 466 post, and which actual cost to date is shown by its books of account, which books, for the present purposes, are admitted to represent the actual expenditures to June 30, 1923.

Cost of reproduction involves the assumption that the utility plant which is being valued is wiped out of existence and that it or an equally efficient plant has to be reproduced, either under present conditions or conditions existing at the installation of the plant. It is necessary to define cost of reproduction as used in the decisions, for the term is employed in a somewhat different sense from that which its ordinary meaning would import. If one were asked what it would cost to reproduce a certain house, he would probably base his answer on the present cost of labor and materials. In valuation of utility property, however, we shall see that a cost of reproduction inquiry is very seldom limited to the ascertainment of the cost of replacing the property at present prices of labor and materials.

Replacement or reproduction cost has been defined as "The amount which would have to be expended at the present time to construct a plant similar in all respects to that which is already in service; or, in other words, the cost under existing conditions. And again, as "an estimate of the cost of building the property in its entirety; that is, financing, purchasing, or condemning the right of way, of a railroad, constructing the roadbed, buildings, etc., just as they exist at the date of the appraisal, assuming that all utility property has been wiped out of existence and is to be replaced with new materials; at prices of materials and labor as of the date of the appraisal." Cost of reproduction is sometimes called the reproduction "value" new, or reproduction "value." But in rate cases it is the value of the property or the rate base that is to be ascertained, and in determining this the cost of reproducing the property has usually been considered merely as bearing upon the question of value rather than as of itself a proper basis for the rate. The question whether reproduction cost is the sole measure of value has been passed upon by the Supreme Court of the United States, which has held that a refusal to value the properties of the Utility at the reproduction or replacement cost in a rate proceeding, is proper when careful consideration has been given to this factor, together with other measures of value. The contention of the com-

panies usually is that the rule to be applied in valueing the physical property was reproduction cost at the time of the inquiry. Within the recent past, the Supreme Court of the United States has decided five valuation or rate cases involving this very question. We shall, accordingly, discuss these cases in the order of the date of the opinion therein.

> Galveston Electric Co., Appellant, v. City of Galveston.
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> Appeal from U. S. District Court 272 Fed. 147. P. U. R. 1921 D. p. 547. Supreme Court 455, October term 1921, decided April 10, 1922. 258 U. S. 388 P. U. R. 1922 D. p. 159.

Involved the fixing of street railway fares. The Master heard the evidence in October, 1920, and filed his report in November, making findings on which he advised that the fare was confiscatory. The experts representing the company and city, respectively, agreed on what they called the historical basis, that is, what the property ought to have cost on the basis of prices prevailing at the time the system and its various units were constructed. The District Judge who heard the case in January, 1921, found a much smaller base value and much larger net revenue, and denied the injunction sought. The case came to the Supreme Court on appeal and was decided on April 10, 1922, affirming the decree below. We shall quote from the opinion only that paragraph directly relating to the determination of the rate base:

> "As the base value of the property, master and court, took—instead of the prudent investment value—the estimated cost of reproduction at a later time less depreciation; and in estimating reproduction cost both refused to use as a basis the prices actually prevailing at the time of the hearings. These had risen to 110 per cent above those of 1913. The basis for calculating reproduction cost adopted by all was prophecy as to the future general price level of commodities, labor and money. This predicted level, which they assumed

would be stable for an indefinite period, they called the new plateau of prices. As to the height of this prophesied plateau there was naturally wide divergence of opinion. The company's expert prophesied that the level would be 60 to 70 per cent above 1913 prices; the master that an increase of 33-1 3 per cent would prove fair; and the Court accepted the master's prophecy of 33-1 3 per cent.

The next valuation and rate case to be decided by the Supreme Court was State of Missouri, ex rel., Southwestern Bell Telephone Co. v. Public Service Commission of Missouri, opinion rendered May 21, 1923, P. U. R. 1923 C, p. 193. This case involved the validity of telephone rates fixed by the Missouri Public Service Commission. The Court declared the rates confiscatory as not yielding a fair return to the company. The majority opinion reviewed the Commission's findings, which had based the rates on an actual investment of $20,400,000. It pointed out that a large part of the property had been installed prior to the war; that no allowance had been made by the Commission for reproduction cost and that in view of the higher level of future prices, it considered the company entitled to a return on $25,000,000; an increase of 22½% over the actual investment as determined by the Commission. The language of the majority opinion, at most, signifies only that **some weight** must be given to the reproduction cost element; if reproduction cost exceeds the actual investment, the fact cannot be disregarded; an increment must be added to the actual investment in the determination of fair value. But the Court does not say that full reproduction cost must be allowed as against investment: Nor does it state what relative weight must be given to the two factors. It does not explain how it reached the particular 22½ per cent increment, when the reproduction cost was probably more nearly 100% above the actual investment. Nor did the Court determine conclusively that some specific weight must be given to reproduction cost. A significant fact is that Mr. Justice Brandeis, in the minority opinion, joined in by Mr. Justice

Holmes, concurs in the actual decision that the rates are confiscatory. But while the majority opinion believes that a proper valuation should have been $25,000,000, instead of the actual investment of $20,400,000, fixed by the Commission, Mr. Justice Brandeis considers the rates confiscatory because they did not bring a fair return on the actual investment. But the decision itself was unanimous; the rates are confiscatory. It is not at all clear that the rates would have been declared invalid if they had brought a fair return on the actual investment, but not upon a substantial allowance for higher reproduction cost. Undoubtedly, the majority of the Court was favorably disposed to the idea that some increment should be added to investment because of higher price levels, but is it the law under said decision that such addition must be allowed in determining whether particular rates are confiscatory? In other words, might the Court not sustain particular rates which bring, say, 7½%, return on actual investment, but will not sustain a higher valuation with a substantial allowance for reproduction cost.

Perhaps it may not be amiss to direct special attention to the separate opinion of Mr. Justice Brandeis and Mr. Justice Holmes in this case, since it presents probably the most learned and exhaustive review of valuation law which is to be found in any of the opinions of Court and Commissions delivered to date.

The next valuation and rate case in the order of date decided by the Supreme Court, was Brush Electric Co. v. City of Galveston, decided June 4, 1923, 258 U. S.—42 Sup. Ct. Rep. 486, P. U. R. 1923, D. 573. It involved the fixing of electric light and power rates by the city and came to the Supreme Court on appeal from the United States District Court of the Southern District of Texas. The parties stipulated, and the master found, that the **cost** of the physical property at averaged pre-war price, undepreciated as of January 1, 1920, was $576,898.00. The parties also stipulated that the undepreciated **value** of the physical property as of the same date was $784,689.00. The master found the latter amount, after deducting the value of real estate,

office and utility equipment and depreciation, represented the depreciated value of the depreciable property for rate making purposes. The parties determined the appreciated value of the physical property as of January 1, 1920, by adding 36.4% to the average pre-war cost of $576,898.00, although it was agreed by the parties that upon pre-war prices there had been a general advance in cost of the various factors making up the property of 110%. The City of Galveston filed exceptions to the master's findings, its first exception being addressed to the master using as a base the amount that the parties had agreed on as the cost of the bare physical property at present prices undepreciated as of January 1, 1920, of $748,689.00. The Court below referred to the fact that the index numbers of wholesale prices by groups of commodities furnished by the Bureau of Labor Statistics in evidence in that case showed that taking 1913 at 100, on January 1, 1917, the average of all commodities was 146; on January 1, 1920, was 248; that using the same commodity statistics as to metal and metal products, the record showed that for metal and metal products on January 1, 1917, the index number was 185, and on January 1, 1920, the metal and metal products index number was 169. He further stated that in his opinion the record before the master established as fairly static a range of prices and valuations above the pre-war figure, saying:

"I am equally of the opinion that the valuations taken by the master as of January 1, 1920, were not static, but were in a process of flux, and that valuations somewhere between the two represent a reasonably static figure for the purpose of this investigation." And further said:

"The additional evidence taken by me had not served materially to throw any new light upon the matter over that which the record before the master furnished, but merely seems to confirm the transitory character of the price levels used in the 1920 valuation." And he thereupon sustained the first exception of the defendants, but did not substitute a value of his own for the reason as stated by him, that in view of the fact that the injunction would be

denied on other grounds, this was not necessary. The Court also substituted 33-1/3% as accrued depreciation in place of 28% accrued depreciation allowed and deducted by the master. Upon appeal to the Supreme Court the decree below was affirmed.

The next valuation and rate case in the order of date decided by the Supreme Court was Bluefield Water Works & Improvement Co., Plaintiff-in-Error, v. Public Service Commission of the State of West Virginia, Supreme Court No. 256, October term 1922, decided June 11, 1923, P. U. R. 1923 D, p. 11. It involved the validity of the rates for water service, prescribed by the State Commission. The Commission had fixed as the fair value for rate making purposes the sum of $460,000,000, which was arrived at substantially on the basis of actual cost less depreciation, plus 10% for Going Value, and $10,000.00 for working capital; and it had allowed as a rate of return thereon 6% for interest and profit and 2% as a reserve for depreciation. The company contended that the Commission erred in not giving consideration to reproduction cost in determining the rate base and also that the rate of return was too low and confiscatory. The Supreme Court found this to be an error and reversed the finding below. Mr. Justice Brandeis concurred in the judgment of reversal for the reasons stated by him in Missouri ex rel. Southwestern Bell Telephone Co. v. Public Service Commission of Missouri, (supra). In the course of its opinion the Court said:

> "A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings, which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures."

The next and last valuation and rate case decided by the Supreme Court, was Georgia Railway & Power Co., et

al., appellants, v. Railroad Commission of Georgia, et al., No. 298 October term 1922, decided June 11, 1923, P. U. R. 1923 D, p. 1, same case in United States District Court No. 278 Fed. 242, P. U. R. 1922 C, p. 744. This case involved the fixing of gas rates of the Georgia Railway & Power Co. in Atlanta and vicinity, by the Railroad Commission of Georgia. The Commission handed down its opinion under date of December 20, 1921, being file No. 13946, quoting Smyth v. Ames (supra) Consolidated Gas Co. case (supra) and the Minnesota rate cases (supra), as the basic principle for the determination of fair value or rate base, (pamphlet copy p. 4 et seq) it said:

> "We can conceive of no practical use to be made of such information except in prescribing rates and it appears to us that the plain implication is that in estimating present value for rate making purposes the cost of original construction or acquisition should be given consideration."
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> "There are scores of court decisions and commission reports discussing the methods of ascertaining fair value for rate making purposes. They vary widely and one can find respectable authorities for sustaining almost any view."
>
> "Another view, which we are frank to admit has had and is receiving approval in many court decisions, is that reproduction cost new, less accrued depreciation, or estimated replacement cost of the plant as it stands at the time of the inquiry, based upon unit costs prevailing at such time, should be the controlling or conclusive factor in arriving at an estimate of present fair value of the physical plant."
>
> "The company substantially contends for the application of this method in this case."
>
> "Mindful of the approval of this method of valuation by a number of court authorities, we cannot concur in the belief that this is, at this time and under existing conditions a just and reasonable method of estimating 'fair value.'"
>
> "We do not mean to say that reproduction cost based upon prices current at the time of inquiry should not receive consideration by the valuator—they should—but only as one of the relevant factors."

"In our judgment the true rule is laid down in Smyth v. Ames, supra, and in the Minnesota cases, where it was said value was to be estimated through the exercise of a reasonable judgment having its basis in a proper consideration of all relevant facts, 'and are to be given such weight as may be just and right in each case.'"

"The human race is only recovering from an experience the like of which the world never before endured, a world war—a world upheaval—an economic cataclysm. There are no stable measures of value today."

"We cannot give our approval to the proposition that it is either just or reasonable to shut out from consideration in the valuation of a plant every factor except that of reproduction as of today, using costs of today, prevalent today because of conditions which never existed before and doubtless never will again."

"Replacement cost as of today capitalizes at the public expense these abnormal conditions, even now changing, and ignores conditions under which this plant was constructed, before they became existent."

"Mr. Luick, an engineer who impressed us as capable and honest, assumes conditions, facts and expenditures which were not and could not have been cost factors in the construction of this plant, to impose which on the public at this time, under a suppositious replacement theory, is not reasonable."

"The exercise of a reasonable judgment as to present 'fair value' requires, however, some consideration of such facts as well as of original construction cost."

"We do not believe that 'present fair value,' is synonomous with 'present replacement cost,' particularly under abnormal or conditions in flux."

"In our judgment the 'fair value' of this gas plant at this time for rate-making purposes may be reasonably approximated by consideration, in the absence of any evidence as to original or historical cost, or replacement cost under normal conditions as of January 1st, 1914, immediately preceding price disturbances by war, plus the actual construction cost of additions, extensions

and betterments since that date. In so doing there is sufficient recognition of conditions existing during this period and now."

"The application of this method in this case is not difficult because of the fact that there is in evidence an appraisal made as of January 1st, 1914, by the well and widely known engineering firm of Parsons, Klapp, Brinkerhoff and Douglas for Drexel and Company, Bankers, financing for the Company, then and now."

"The conditions under which this appraisal was made, that is by the use of normal unit costs at a time when there were no violent price disturbances by a firm of such high character, under employment by Bankers lending large sums on the property, appear to give it especial value."

"The record shows that from January 1st, 1914, to the time the company has actually expended in new construction, additions, extensions and betterments chargeable to capital account the sum of $1,008,222, plus the book cost of the Decatur Gas property, $78,322, making a total of $4,984,536, undepreciated. In the present case Mr. Brinkerhoff estimated the percentage condition of the physical properties as 88.6% on September 30th, 1921, applying which leaves $4,416,299 for these properties, as of December, 1921."

The commission fixed the valuation of the property at $5,250,000.00; the value of the franchise and claim for cost of financing being excluded; and reduce the rate for gas to $1.55 per M cu. ft., effective January 1, 1922. The Georgia Co. then filed suit to the United States District Court for the Northern District of Georgia, to enjoin the enforcement of the order of the Commission, claiming that the rates as fixed were confiscatory. The District Court, in refusing the injunction applied for, (P. U. R. 1922 C, 746, 750, 751) said:

"The rate attacked was fixed after full hearing, under laws providing therefore. The clear and comprehensive opinion of the Railroad Commission recognizes as the applicable principles of law rules which we think are substantially correct, and it evinces a full and conscientious con-

sideration of the evidence. Due process of law has been afforded. The real question is whether the rate so fixed is confiscatory—takes the use of private property for a public purpose without just compensation. As to that we express an independant judgment upon the case presented here, instead of reviewing the judgment of the Railroad Commission for error of law or fact, and the presumption is in favor of the action of the Commission."

"In ascertaining the present value of physical properties, though correct rules were announced by the Commission, we do not think they were exactly followed. We agree that in a period of changing values a decided tendency to higher or lower may be judicially noticed and considered, as was done in Lincoln Gas & Elec. L. Co. v. Lincoln, 250 U. S., at page 268, 39 Sun. Ct. Rep. 454, 63 L. ed. 968, and that a slavish adherence to cost of reproduction, less depreciation, is not required. Rates are not fixed every day, but are designed to have some degree of permanency, and the probabilities of the immediate future, is fairly evident, are part of the situation dealt with. The Commission did not allow the appreciation claimed on the investment since 1914, nor did it deduct from the investments of 1919 and 1920, which were nearly $1,000,000 their admitted reproduction loss, but it did allow the appreciation in market price of real estate. On the whole, averaging results, and remembering that values are at last matters of opinions, upon which witnesses and that of ourselves may be no better than that expressed by the Commission, we think no contitutional wrong clearly appears."

On appeal to the Supreme Court the Commission and the lower Court were upheld. The Court said (opinion by Mr. Justice Brandies):

"The gas supply of Atlanta is furnished by the Georgia Railway & Power Company. Authority to fix public utility rates is vested by law in the Railroad Commission. On September 20, 1921, the Commission called upon the Georgia Company to show cause why the then maximum rate, $1.65

per M cu. ft. should not be reduced; and hearings were duly had. The company insisted that under the proposed rate the net income would be less than 3 per cent on what it claimed to be the fair value of the property. The Commission concluded that the net income under the proposed rate would be about 8 per cent on the value found by it. This difference in their views as to the percentage of probable return arose mainly from their difference as to the value of the property. The company claimed that it was at least $9,500,000. On December 30, 1921, it ordered that the price of gas be reduced to $1.55.

The Georgia Company and the Atlanta Gas Light Co., its lessor, then brought, in the Federal court for the Northern District of Georgia, this suit to enjoin enforcement of the order, claiming that the rate prescribed is confiscatory. The case was heard upon application for an interlocutory injunction by three judges under section 266 of the Judicial Code. The court did not approve in all respects the views expressed by the Commission; but it found that 'even were there considerable error in fixing values by the Commission, the rate would not appear to be clearly confiscatory' and that enforcement of the order ought not be enjoined until the reduced rate had been tried. It, therefore, refused the interlocutory injunction; and the case is here on appeal under Section 238 of the Judicial Code.

"FIRST—The objections mainly urged relate to the rate-base; and one of them is of fundamental importance. The companies assert that rule to be applied in valuing the physical property of a utility is reproduction cost at the time of the inquiry less depreciation. The 1921 construction costs were about 70 per cent higher than those of 1914, and earlier dates when most of the plant was installed. So much of it was in existence January 1, 1914, was valued at an amount which was substantially its actual cost or its reproduction cost as of that date. The companies claim that it should have been valued at its replacement cost in November, 1921—the time of the rate inquiry;

and that the great increase in construction costs was ignored in determining the rate base."

"The case is unlike Missouri ex rel. Southwestern Bell Telephone Co. v. Public Service Commission, No. 158, decided May 21, 1923. Here the Commission gave careful consideration to the cost of reproduction; but it refused to adopt reproduction cost as the measure of value. It declared that the exercise of a reasonable judgment as to the present fair value required some consideration of reproduction costs as well as of original costs, but that 'present fair value' is not synonymous with 'present replacement cost,' particularly under abnormal conditions. That part of the rule which declares the utility entitled to the benefit of increases in the value of property was, however, specifically applied in the allowance of $125,000, made by the Commission to represent the appreciation in the value of the land owned. The lower Court recognized that it must exercise an independent judgment in passing upon the evidence; and it gave careful consideration to replacement cost. But it likewise held that there was no rule which required that in valuing the physical property there must be 'slavish adherence to cost of reproduction less depreciation.'"

"It discussed the fact that since 1914 large sums had been expended annually on the plant; that part of this additional construction had been done at prices higher than those which prevailed at the time of the rate hearing; and it concluded that 'averaging results and remembering that values are . . . matters of opinion . . . no constitutional wrong clearly appears.'"

"The refusal of the Commission and for the lower court to hold that, for rate-making purposes, the physical properties of a utility must be valued at the replacement cost less depreciation was clearly correct. As was said in Minnesota Rate Cases, 230 U. S. 352, 434:

"'The ascertainment of that value is not controlled by artificial rules. It is not a matter of

formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts.'"

"What these relevant facts are had been stated in Smyth v. Ames, 169 U. S. 466, 546, 547:

"'. . . . the original cost of construction, the amount expended in permanent improvements, the amount and marked value of ist bonds and stocks, the present as compared with the original cost of construction, the probable earning capacity of of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employes for the public convenience. On the other hand, that which the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth.'"

"And in Willcox v. Consolidated Gas Company, 212 U. S. 19, 52m, it had been made clear 'that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property, which legally enters into the consideration of the question of rates, has increased in value since it was acquired, the company is entitled to the benefit of such increase.'"

"The rule laid down in these cases was expressly recognized as controlling, both by the commission and by the lower court. Evidence bearing on most of the facts there declared to be relevant facts was before them. The court states, and the record establishes, that 'the opinion of the Commission evinces a full and conscientious consideration of the evidence.' The opinon of the Court shows that it also made careful examination of the evidence submitted

and that it recognized the applicable rules of law. While it differed from the commission in some matter of detail, it sustained the latter's finding that the value was $5,250,000. The question on which this Court divided in the Southwestern Bell Telephone case, supra, is not involved here."

"FIFTH—The probable return based on the value and the probable income found by the commission would be nearly 7¼%. It must be borne in mind, as pointed out in Galveston Electric Co. v. Galveston, supra, that, since dividends from the corporation are not included in the income on which the normal federal tax is payable by stockholders, the tax exemption is, in effect, an additional return on the investment. A return of 7½%—in addition to this tax exemption—cannot be deemed confiscatory."

Mr. Justice McKenna filed a dissenting opinion. It must be admitted that a startling demonstration of the fallacies of the reproducing cost theory has been given in this case. Mention is made in the dissenting opinion of Mr. Justice McKenna that the Commission did not "allow the appreciation claimed on the investment since 1914, nor did it deduct from the investment of 1919 and 1920 and 1921, which were nearly a million dollars over their admitted reproduction loss." (sic). In other words, in that case the Commission and Court were faced with the fact that if they applied the reproduction cost theory strictly, they would have to scale down investments recently made to the extent of approximately $1,000,000.00. Apply this process through the next ten years in a period of presumably declining prices, and the application of the reproducing cost theory would not allow any of the Public Utilities a fair return upon millions of dollars of actual investment made during the recent and present period of high prices. It would seem that the Court, as a whole, recognized the soundness of the warning put forth in the opinion of Mr. Justice Brandeis, in the Southwestern Bell Telephone case:

> "If replacement cost should become the measure of the rate base the return on enterprises entered upon after January, 1914, would, obviously, be imperiled. And a serious decline of the price level would subject the return on many utilities established earlier to like dangers. A collapse of public utility values might result.
>
> And the impairment of public utility credit might be followed by the cessation of extensions and new undertakings."

In the same opinion the learned justice pointed out:

> "The chart shows that the peak price levels were practically the same during the war of 1812, the Civil War and the World War, and it shows that practically continuous declines, for about 30 years, followed the first two wars. The experience after the third may be similar."

EXCHANGE OR MARKET VALUE OF GAS PRODUCING LEASEHOLDERS (Acreage)

The contention of the company herein is:—That the value of their property is the same for rate making, for sale or for any other purpose; that at the minimum this value is now equal to (1) the cost of reproduction new of their tangible property, making deduction for depreciation, only to the extent of observed (opinion) depreciation; (2) reckoning in the gas acreage (gas territory leaseholds) at its market value, (what in the opinion of its witnesses it could be sold for between a willing seller and a willing buyer or its earning capacity); and finally, that to this market value there should be added a further amount representing the value of its business, namely, that value which results from the fact that it is an assembled plant, doing business and earning money. It has already been shown that (1) cost of reproduction value is not the sole or exclusive basis for the ascertainment of the rate making value. We shall now attempt to show that ex-

change of market value of the gas acreage, claimed by the company, are supported by fanciful reasoning lacking in reality.

The company's witness in the instant case, Mr. S. S. Wyer, testified that the present value of the operated gas producing acreage was $300.00 per acre, because, in his opinion, it would sell at that figure from a willing seller to a willing buyer; and that 20% of the unoperated gas acreage would sell at $100.00 per acre from a willing seller to a willing buyer. In case No. 845 before the Public Service Commission of West Virginia (supra), Mr. Wyer testified with respect to the value of the operated and unoperated gas leaseholds of the United Fuel Gas Co., to the same effect, and Mr. Wyer's testimony was supplemented on behalf of the company by Dr. I. C. White and Mr. John Davidson. In said case, P. U. R. 1920 C, 583, the Commission carefully considered all the evidence adduced with reference to the contention for market value of the gas leasehold acreage, and refused to allow the appraised value contended for by the company. It discussed the problem in an able opinion that presents probably the most exhaustive citation of supporting authorities, and reasoning extant. The Railroad Commission of Kentucky is respectfully invited to a perusal of said discussion and opinion as a convincing argument against the allowance of the appraised values of the gas leaseholds or acreage contended for by the company in the instant case. In no one of the cases which have come before the United States Supreme Court has the claim that exchange value ought to determine the rate-making value been approved. There was in the original Smyth v. Ames case a suggestion that the market value of stocks and bonds should be considered, but that suggestion has not been repeated in subsequent cases and never has been acted upon in any case.

The whole proposition urges a legal absurdity. A rate-making value is to be found for the purpose of determining a fair rate. Market value is determined by the rates actually in effect. If, therefore, market value is to determine

rate-making value and rate-making value is to determine the rate, then the present rates must be right.

The vicious circle of reasoning involved in saying that the exchange value of a property, which is a necessary resultant of its earning power, can be established as a basis for legally authorizing its earning power has often been pointed out. As Mr. Justice Hughes expressed the thought in The Minnesota Rate Cases, supra, at page 461:

> "The value of the use, as measured by return, cannot be made the criterion when the return itself is in question. If the return, as formerly allowed, be taken as the basis, then the validity of the State's reduction would have to be tested by the very rates which the State denounced as exorbitant. And, if the return as permitted under the new rates be taken, then the State's action itself reduces the amount of value upon which the fairness of the return is to be computed."

And in the concurring opinion by Mr. Justice Brandeis and Mr. Justice Holmes, in the Southwestern Bell Telephone Co. case (supra), it was said:

> "The Constitution does not guarantee to the utility the opportunity to earn a return on the value of all items of property used by the utility, or of any of them. The several items of property constituting the utility, taken singly, and freed from the public use, may conceivably have an aggregate value greater than if the items are used in combination. The owner is at liberty, in the absence of controlling statutory provision, to withdraw his property from the public service; and, if he does so, may obtain for it exchange value. Compare Brooks-Scanlon Co. v. Railroad Commission of Louisiana, 251 U. S. 396; Erie Railroad Company v. Public Utility Commissioners, 254 U. S. 394, 411; Texas v. Eastern Texas R. R. Co., 258 U. S. 204. But so long as the specific items of property are employed by the utility, their exchange value is not of legal significance.
>
> "It is impossible to find an exchange value for a utility, since utilities, unlike merchandise or land,

are not commonly bought and sold in the market. Nor can the present value of the utility be determined by capitalizing its net earnings, since the earnings are determined, in large measure, by the rate which the company will be permitted to charge; and, thus, the vicious circle would be encountered."

"Value is a word of many meanings. That with which commissions and courts in these proceedings are concerned, in so-called confiscation cases, is a special value for rate-making purposes, not exchange value. This is illustrated by our decisions which deal with the elements to be included in fixing the rate base. In Cedar Rapids Gas Co. v. Cedar Rapids, 225 U. S. 655, 668; and Des Moines Gas Co. v. Des Moines, 238 U. S. 153, 165, good will and franchise value were excluded from the rate base in determining whether the prescribed charges of the public utility were confiscatory. In Galveston Electric Co. v. Galveston, 250 U. S. 388, the cost of developing the business as a financially successful concern was excluded from the rate base. In Des Moines Gas Co. v. Des Moines, 238 U. S. 133, 171, the fact that the street had been paved (and hence the reproduction cost of laying gas mains greatly increased), was not allowed as an element of value. But, obviously, good will and franchise value is involved. And where the community acquires a public utility by purchase or condemnation, compensation must be made for its good will and earning power; at least under some circumstances. Omaha v. Omaha Water Co. 218 U. S. 80, 202, 203; National Waterworks Co. v. Kansas City, 62 Fed. 853, 865. Likewise, as between buyer and seller, the good will and earning power due to effective organization are often more important elements then tangible property. These cases would seem to require rejection of a rule which measured the rate base by cost of reproduction or by value in its ordinary sense."

In this connection it should be stated that all leasehold expenses, including cancelled and surrendered lease ex-

penses, and delay rentals on unoperated acreage are charged to operating expense.

The sums expended for delay rentals on unoperated acreage for the years 1914 to June 30, 1923, amounted to $5,405,340.00, estimating these for the years 1910 to 1914, inclusive at $1,700,000.00 gives a total of $7,104,340.00 and in addition thereto the company has, since the year 1917, been authorized to include in its operating expense a reserve for depletion on the cost of the unoperated gas leaseholds and has set aside for that purpose at least 5 per cent per annum; this would amount as of June 30, 1923, to at least $1,500,000.00; in other words, about $8,500,000.00 has been included in the operating expense of the company since 1909—and presumably collected from the gas consumers; and, besides, it has been permitted to earn a reasonable rate of return on the cost of this unoperated gas acreage (bonuses paid), which has enabled the company to accumulate this vast gas territory, which its witness states:

> "As the company is situated today the field property of the United Fuel Gas Co., I would regard as the most valuable natural gas property in the world."

And would have this Commission permit the company to earn a return on approximately $15,000,000.00, as the market value of said unoperated acreage, and which does not represent used and useful facilities within the meaning of these terms. The same or similar facts and reasoning apply to the operated gas acreage.

In case No. 845, before the Public Service Commission of West Virginia, P. U. R. 1920 C, p. 603 and p. 604, the Commission ruled that it would not allow as the capital charge for all the gas acreage a sum in excess of the actual cost of these leases and that was done only with the understanding that a reserve would be created to amortise and wipe out the investment cost as a capital charge within the probable life of said leases, which were shown to be from 15 to 20 years; and that "the expense of acquiring

and carrying all leases in the future shall be charged to operating expense instead of capital and in that manner preventing a pyramiding of capital to such an extent that in the dying days of the utility the rates would not be prohibitive in order to insure it a fair return upon its capital investment," further saying that the many elements of uncertainty that must necessarily enter into all opinions regarding the value of gas leaseholds for rate making were so obvious and well known as to render it manifestly unjust and unreasonable to place any value thereon in excess of its actual cost.

It is assumed that the company, following said decision, did charge the cost of acquiring all subsequent leaseholds to operating expense and it would appear that this was done since in the exhibits filed by the protestants in the case No. 1251 on rehearing before the West Virginia Commission it was developed that in the year 1921, $48,319.00 and in the year 1922, $46,756.00, was included in the operating expense as "gas leasehold expenses."

The decided cases involving the placing of a value on gas leaseholds in rate cases by courts and commissions, are reviewed by Mr. Commissioner Wiles in case No. 845, before the Public Service Commission of West Virginia (supra), at page 600, et seq. P. U. R. 1920 C. The consensus of opinion there set forth is in effect, that in a rate case these should be included in the operating expense, which in effect is done when a rate of return and a reserve for depletion is included in the cost of production and the cost of the leases is written down to the extent of depletion. And although the West Virginia Commission in said case indicated that the leasehold investments should be so written down, and amortized, until the investment therein had been absorbed and its capital to that extent reduced, this does not appear to have been done. We confidently believe that this Commission must reject value for these leaseholds as determined by earnings or exchange value as a measure of the rate making value, and while the inclusion of the operated and unoperated gas acreage at

cost, without deduction for depletion, in the rate base, means that a return would continue to be paid on that portion that has been sold and no longer exists, we have nevertheless done so for the purposes of this case, in the belief that this Commission will conclude that said cost without the addition of any multipliers and without the deduction for depletion must be the maximum amount upon which a return may be computed in this case.

THE GAS INVESTMENT

DECEMBER 31, 1922—and JUNE 30, 1923.

In the report filed by us October 7, 1921, in the case of City of Catlettsburg, et al., v. United Fuel Gas Co., No. 13, before the Railroad Commission of Kentucky, we did not show a table of the yearly additions that had been made to the property in order to care for its growing business, but we did give full consideration to the fact that starting with an investment shown by its books as of December 31, 1909, of $148,888.82, additional capital investments were made each year so that, at December 31, 1915, the company had an investment of $17,719,437.00 in round figures, and thereafter it made additional annual capital investments as follows:

1916	$1,213,686.60
1917	1,594,839.95
1918	804,156.33
1919	753,116.34
1920	1,392,848.57

so that by the end of the year 1920 it had increased its capital from $17,719,437.00 to $23,527,264.93, unadjusted

and upon the facts so disclosed it was decided that fair and even generous treatment would be accorded the company, did we adopt the investment cost, including therein operated and unoperated acreage, without deduction for depletion, plus 10 per cent construction overhead charges and allowing 10 per cent for Going Concern Value, both of which were allowed as an additional full measure, and without any proof or evidence before us that such additional allowance ought to be made when prudent investment is taken as the rate base. In this case, however, inasmuch as the company is contending for the appreciated or reproduction cost less depreciation of its tangible physical property as the rate base, such a table becomes important because it shows what a large percentage of the investment in tangible physical property has been made since the great rise in labor and material prices.

Accordingly, following this at page 43, will be found table 1, which shows in classified form the sums expended each year and the class of property in which the investment is made, from July 1, 1909, to June 30, 1923, inclusive, and the totals thereof; sub-table (a) of table 1 shows the capital investment in all property save acreage and rights of way in use as of December 31, 1915, to be $10,700,987.00, or 57.4% of the amount in use as of June 30, 1923; and the yearly additions of property and the percentage that such additions bear to the total of such property in use as of June 30, 1923, and the totals thereof. It will be observed that the total additions exclusive of gas acreage and rights of way made from January 1, 1916, to June 30, 1923, was $7,130,325.07, equal to 42.6% of the total of such property in use as of June 30, 1923. This is an important point for consideration in connection with the contention of the company for present day prices as constituting the value of the property for rate making.

Following table 1 will be found table 2, at page 44, and table 3, at page 45, which set forth respectively the statements of the gas investment classified as to Distribution, Production and Transmission system property and

the percentage thereof, as shown on the books of the company as of December 31, 1922, and as of June 30, 1923, but ignoring the increase of $31,778,111.42, which was set up on the books as of December 1, 1918, representing the appraised or increased value of gas leaseholds since such an estimated value may not be introduced into the cost or investment because it does not mean that said amount of money had been put into the property; it neither reflects cost or value for rate-making. Such items as cost of financing and adjustment are left in these tables but the same should be excluded from the investment since neither may be included as such for reasons set forth at pages 6 and 7 of our former report and introduced as an exhibit in case No. 13 (supra). Nor have we deducted the unoperated acreage investment chargeable to the oil department or portions of the office building, land, furniture and fixtures, chargeable to other departments, the total whereof would aggregate approximately $1,500,000.00. Said statements include, however, the incomplete construction as of their respective dates.

UNITED FUEL

YEARLY ADDITIONS TO PROPERTY AND PLANT ACCOU

Line No.	Classification	Period July 1, 1909 Dec. 31, 1909	Year Ended Dec. 31, 1910	Year End Dec. 31, 1
1	Pipe	$ 77,167.85	$2,377,425.73	$ 697,07
2	Casing in Wells	3,701.12	258,611.46	140,12
3	Other Well Construction	250.06	20,154.54	21,08
4	Buildings (1)	584.05	20,453.15	7,38
5	Fittings	3,380.45	72,862.07	14,83
6	Gate Valves and Other Material	2,666.14	35,870.54	12,92
7	Labor, Teaming and Freight	26,265.67	999,381.60	43*,75
8	Regulators	1,043.18	14,925.55	1,37
9	Telephone and Telegraph Lines	30.79	29,878.30	7,57
10	Office Furniture	1,328.37	12,703.75	3,99
11	Large Tools	106.16	4,800.14	44
12	Meters	12,338.90	167,998.75	14,92
13	Compressor Stations	450.00	5,553.69	2,88
14	Measuring Stations		8,138.97	1,05
15	Service Lines	90.68	10,956.15	31
16	Horses, Wagons, Autos	271.15	7,846.55	52
17	Drilling Out Tools		41,631.31	5,57
18	Cleaning Out Tools			
19	Total	$129,674.57 1a	$4,089,192.25 1a	$ 1,357,91
20	Accumulated Totals	129,674.57 1a	4,218,866.82 1a	5,576,78
21	Acreage	16,215.21	5,239,150.95	1,852,08
22	Rights of Way	2,003.87	47,748.78	14,41
23	Rights of Way Expense	995.17	19,929.28	19,29
24	Totals	$148,888.82	$9,396,021.26	$ 3,043,70
25	Accumulated Totals	148,888.82	9,544,910.08	12,588,61
26	Cost of Financing			
27	Adjustment			
28	Gasoline Stations		2,593.24	2,59
29	Incomplete Construction			
30	Drills and Use of Rigs		141,136.39	1,19
31	Total Additions	$148,888.82	$9,739,750.89	$ 3,042,31
32	Cost of Property and Plant at beginning of year		148,888.82	9,888,63
33	Cost of Property and Plant at end of year		9,888,639.71	12,930,95
34	Sales of Gas in M. Cubic Feet		19,177,211	23,725

*Denotes Deductions.

**Prior to 1915, all well construction cost except well casing, was charged t transferred to the capital account, and therefore, appears in the total of "Other Well C as in use as of December 31, 1915, and included herein in the total of $10,700,987.20, from the amount shown as additions for 1917, in said sub-table (a).

(1a) Explanation of the words "Totals" and "Accumulated" Totals" as use property during the year 1909 of $129,674.57. In the year 1910, line 19, under colu accumulated total of additions from the year 1909 to end of the year 1910, add the this gives the accumulated totals as of December 31, 1910, or, $4,218,866.82, and so o appear.

(1) Includes land.

TABLE I.

AS COMPANY.

T FOR PERIOD JULY 1, 1909, TO JUNE 30, 1923, INCLUSIVE.

	Year Ended Dec. 31, 1912	Year Ended Dec. 31, 1913	Year Ended Dec. 31, 1914	Year Ended Dec. 31, 1915	Totals as of Dec. 31, 1915
2	$ 205,398.60	$ 410,145.80	$ 245,633.96	$ 75,934.29	$ 4,088,783.85
1	13,619.75	88,295.78	86,779.54	60,650.38	651,780.44
4	13,770.55*	4,273.15	4,979.79	612,984.41	649,959.14
8	15,352.96	21,423.16	14,423.44	73,356.33	152,973.57
1	8,473.68	15,571.09	5,120.62	10,197.55	130,442.57
6	12,609.59	12,330.92	1,945.96*	5,007.92	79,463.41
3	151,744.63	245,179.93	270,906.31	83,773.73	2,216,008.20
0	586.06	2,021.91	2,600.64*	540.87	17,887.23
6	15,128.99	13,002.86	4,093.05	166.13	69,877.28
7	5,000.26	3,776.09	2,203.91	994.06*	28,013.69
2*	909.83*	5,114.61	99.16	42.74	8,812.66
9	7,511.36	21,261.51	7,513.86	3,707.97*	226,946.30
7	8,888.36*		276,117.97	73,073.74	349,191.71
6	293.08	4,208.99	12,498.71	13,963.60	40,159.41
4	1,113.93	110,461.56	10,763.63	11,459.18	145,155.97
2	6,442.30	2,418.45	2,336.38	878.88	20,716.83
3*	893.72*	5,814.57	1,861.84	7,518.93	50,355.60
	20,041.20	1,873.53	5,218.63*	5,800.49*	10,895.61
1	$ 438,853.93	$ 967,173.91	$ 935,566.94	$ 1,019,046.16	$ 8,937,423.37**
3	6,015,636.36	6,982,810.27	7,918,377.21	8,937,423.37	
3	41,933.56	21,751.75	89,053.19*	24,479.23*	6,857,600.28
7	2,858.56	9,835.04	6,402.77	2,455.73	85,720.02
6	5,858.67	14,749.43	8,508.40	5,791.63	75,129.34
7	$ 489,504.72	$ 1,013,510.13	$ 861,424.92	$ 1,002,814.29	$15,955,873.01
5	13,078,123.67	14,091,633.80	14,953,058.72	15,955,873.01	
4*				31.86	1.86
0				342,333.79*	
3	$ 489,504.72	$ 1,013,510.13	$ 861,424.92	$ 660,512.36	$15,955,904.87
1	12,930,952.74	13,420,457.46	14,433,967.59	15,295,392.51	
4	13,420,457.46	14,433,967.59	15,295,392.51	15,955,904.87	
8	28,820,956	28,151,600	29,283,145	29,594,673	

perating expense, the total amount whereof was $1,763,563.83. In 1917, said sum was struction," $1,892,417.88 as of December 31, 1917; but the same is included in this table hown in the sub-table (a) hereof as in use December 31, 1915, and is, therefore, excluded

in this Table; Under column year 1909, horizontal line 19, there is shown additions to 1910, the additions to property as shown, were, $4,089,192.25; therefore, to obtain the ures shown at line 20, in the year 1909, to the totals shown at line 19, in the year 1910; throughout the table wherever the words "totals" and "accumulated totals" respectively

YEARLY ADDITIONS TO PROPERTY AND PLANT

Line No.	Classification	Year Ended Dec. 31, 1916	Year Ended Dec. 31, 1917	Year Ended Dec. 31, 1918
1	Pipe	$ 454,143.68	$ 506,439.24	$ 58,912.43
2	Casing in Wells	54,753.20	196,790.17	58,052.62
3	Other Well Construction	160,854.61	1,892,417.88**	34,539.16
4	Buildings (1)	413.38	17,907.41	52,733.11
5	Fittings	8,100.12	22,914.71	5,635.66
6	Gate Valves and Other Material	7,134.97	10,851.62	1,861.08
7	Labor, Teaming and Freight	471,006.95	426,816.97	43,844.83
8	Regulators	2,457.77	737.17	2,452.59
9	Telephone and Telegraph Lines	1,637.83*	32,595.85	4,050.11
10	Office Furniture	4,958.23	1,096.69	1,859.48
11	Large Tools	825.10	2,563.39	1,439.69
12	Meters	17,084.93	11,800.94	29,965.80
13	Compressor Stations	11,306.48	149,445.40	472,709.42
14	Measuring Stations	4,721.65	19,127.93	14,014.59
15	Service Lines	14,721.36	13,392.18	15,227.81
16	Horses, Wagons, Autos	684.89	7,372.27	252.46
17	Drilling Out Tools	1,370.39	40,001.14	1,571.00*
18	Cleaning Out Tools	786.72	6,132.82	8,176.49
19	Totals	$ 1,213,686.60	$ 3,358,403.78**	$ 804,156.33
20	Accumulated Totals	10,151,109.97	13,509,513.75	14,313,670.08
21	Acreage	147,271.20	33,993.60*	138,606.02*
22	Rights of Way	6,607.73	8,904.08	2,705.82
23	Rights of Way Expense	9,305.19	12,371.91	4,113.39
24	Totals	$ 1,376,870.72	$ 3,345,686.17	$ 672,369.52
25	Accumulated Totals	17,332,743.73	20,678,429.90	21,350,799.42
26	Cost of Financing	118,277.25	74,255.60	
27	Adjustment	266,453.93	490,147.25	
28	Gasoline Stations	279,940.59	157,706.42	515,975.91
29	Incomplete Construction			
30	Drills and Use of Rigs			
31	Total Additions	2,041,542.49	4,067,795.44	1,188,345.43
32	Cost of Property and Plant at beginning of year	15,955,904.87	17,997,447.36	22,065,242.80
33	Cost of Property and Plant at end of year	17,997,347.46	22,065,242.80	23,253,588.23
34	Sales of Gas in M. Cubic Feet	39,290,446	60,610,866	57,035,146

*Denotes Deductions.

**Prior to 1915, all well construction cost except well casing, was char[illegible] ferred to the capital account, and therefore, appears in the total of "Other W[illegible] in use as of December 31, 1915, and included herein in the total of $10,700,9[illegible] the amount shown as additions for 1917, in said sub-table (a).

(1) Includes Land.

Continued.

COMPANY.

FOR PERIOD JULY 1, 1909, TO JUNE 30, 1923, INCLUSIVE.

	Year Ended Dec. 31, 1920	Year Ended Dec. 31, 1921	Year Ended Dec. 31, 1922	Period June 30, 1923	Total
	$ 79,693.33	$ 325,353.08	$ 81,314.79	$ 22,264.55	$ 5,675,831.97
	110,688.20	105,340.00	29,403.75	29,429.69	1,262,809.37
	323,299.32	241,662.09	90,331.43	117,606.66	3,539,874.91
*	52,176.86	58,056.15	14,044.52	2,343.41	305,212.58
	6,545.26	6,612.00	5,256.14	2,112.34	192,462.75
	2,356.63	3,165.07	2,313.17	1,467.63	110,668.98
	87,679.12	219,141.78	66,593.10	22,684.80	3,594,500.21
	816.20	764.14	1,034.53	625.03	28,936.74
	2,244.19	269.48*	304.01	32.73	111,691.26
*	239.89	24,939.96	1,077.90	376.52	40,875.36
*	94.00*	880.54	1,859.67	481.05	16,575.48
	66,759.86	42,545.08	15,806.46	17,455.92	481,178.42
	612,274.91	315,532.41	179,204.26	16,765.31	2,683,632.63
	24,582.95	1,841.38	6,825.07	3,086.50	116,250.42
	23,254.52	32,893.25	28,206.71	16,469.89	313,628.23
	10,389.19	2,275.27*	4,489.20*	3,440.48	38,290.46
	15,621.76*	8,387.88*	6,645.15*	116.80	71,961.23
	5,563.90	4,385.63	8,129.16	2,167.72	46,931.27
	$ 1,392,848.57	$ 1,372,179.93	$ 540,570.32	$ 258,927.02	$18,631,312.27
	16,459,634.99	17,831,814.92	18,372,385.24	$ 258,927.03	18,631,312.27
*	90,074.70	134,598.36*	196,205.95*	53,100.43	6,578,475.51
	1,850.00	5,771.54	2,640.04	298.00	116,453.24
	1,252.41	6,848.51	4,279.60	1,393.30	116,228.30
	$ 1,486,025.68	$ 1,250,201.62	$ 351,284.01	$ 313,718.76	$25,442,469.32
	23,527,264.93	24,777,466.55	25,128,750.56	25,442,469.32	
					193,782.85
				32,943.56	789,544.74
	271,911.51	1,452,557.89*			
		139,728.83	57,219.88	265,053.44	462,002.15
	1,757,937.19	62,627.44*	408,503.89	611,715.76	26,887,799.06
	24,172,269.66	25,930,206.85	25,867,579.41	26,276,083.30	
	25,930,206.85	25,867,579.41	26,276,083.30	26,887,799.06	
	51,795,457	42,018,821	46,867,511	25,998,122	

g expense, the total amount whereof was $1,763,563.83. In 1917, said sum was transion," $1,892,417.88 as of December 31, 1917; but the same is included in this table as the sub-table (a) hereof as in use December 31, 1915, and is, therefore, excluded from

TABLE I—Continued.

UNITED FUEL GAS COMPANY.

YEARLY ADDITIONS TO PROPERTY AND PLANT ACCOUNT FOR PERIOD JULY 1, 1909 TO JUNE 30, 1923, INCLUSIVE.

SUB-TABLE (a).

Property exclusive of leasehold (gas acreage) and Rights of Way—in use as of December 31, 1915, and the per cent that the same bears to the total of such property in use as of June 30, 1923; and additions of such property each year since December 31, 1915, and the per cent that such additions bear to the total of such property in use as of June 30, 1923.

	Amount	Per Cent	Amount	Per Cent
In use as of December 31, 1915			$10,700,987.20	57.4
Additions for Year				
December 31, 1916	$1,213,686.60	6.5		
December 31, 1917	1,594,839.95**	8.5		
December 31, 1918	804,156.33	4.3		
December 31, 1919	753,116.34	4.0		
December 31, 1920	1,392,848.57	7.5		
December 31, 1921	1,372,179.93	7.4		
December 31, 1922	540,570.32	3.0		
For 6 Months 1923	258,927.03	1.4		
Total Additions, Jan. 1, 1916 to June 30, 1923	$7,930,325.07	42.6	$7,930,325.07	42.6
Total all Property (except gas acreage) and Right of Way in use as of June 30, 1923			$18,631,312.27	100%

**After deduction of $1,763,563.83.

TABLE 2.

UNITED FUEL GAS COMPANY.

Statement of Investment December 31st, 1922.

Gas Investment	Distribution	Production	Transmission	Total
Pipe	$ 628,548 58	$ 1,462,163 93	$3,562,854 91	$ 5,653,667 42
Casings and Wells		1,233,370 68		1,233,379 68
Other Well Construction		3,422,268 25		3,422,268 25
Acreage		6,525,375 08		6,525,375 08
Rights of Way	2,443 36	38,563 37	75,148 51	116,155 24
Rights of Way Expense	4,181 59	45,048 22	65,605 19	114,835 00
Buildings	110,947 92*	55,060 01*	136,861 24*	302,869 17*
Fittings	52,171 08	79,574 16	58,605 17	190,350 41
Gate Valves and Other Material	23,015 96	46,656 08	39,529 31	109,201 35
Labor, Teaming and Freight	424,445 56	969,675 46	2,177,694 39	3,571,815 41
Regulators	24,196 37	1,446 66	2,668 68	28,311 71
Telegraph and Telephone Lines			111,658 53	111,658 53
Office Furniture	36,366 73	3,446 96	685 15	40,498 84
Large Tools	9,421 83	6,023 68	648 92	16,094 43
Meters	443,485 08	10,140 37	10,097 05	463,722 50
Compressor Stations			2,666,867 32	2,666,867 32
Measuring Stations	25,911 19	50,588 88	36,663 86	113,163 93
Service Lines	297,158 33			297,158 33
Horses, Wagons and Autos	9,797 62	22,808 24	2,244 12	34,849 98
Drilling Tools		71,844 43		71,844 43
Cleaning Out Tools		44,763 55		44,763 55
Adjustment	1,386 13	755,415 08	200 03**	756,601 18
Cost of Financing				193,782 85
Incomplete Construction				196,948 71
Total	$2,093,477 33	$14,844,242 09	$8,947,632 32	$26,276,083 30
	8 3%	65 1%	35 6%	100%

**Denotes Deductions.

*Includes Land.

TABLE 3.

UNITED FUEL GAS COMPANY.

Statement of Investment as of June 30, 1923.

Gas Investment	Distribution	Production	Transmission	Total
Pipe	$ 636,960 98	$ 1,476,390 72	$3,562,480 27	$ 5,675,831 97
Casing in Wells		1,262,809 37		1,262,809 37
Other Well Construction		3,539,874 91		3,539,874 91
Acreage		6,578,475 51		6,578,475 51
Rights of Way	2,463 36	38,823 24	75,166 64	116,453 24
Rights of Way Expense	4,181 59	45,623 55	66,423 16	116,228 30
Buildings	110,849 34*	55,060 01*	139,303 23*	305,212 58*
Fittings	52,235 11	81,441 87	58,785 77	192,462 75
Gate Valves and Other Material	23,157 45	47,589 81	39,921 72	110,668 98
Labor, Teaming and Freight	432,570 38	984,405 66	2,177,524 17	3,594,500 21
Regulators	24,569 15	1,578 91	2,788 68	28,936 74
Telegraph and Telephone Lines			111,691 26	111,691 26
Office Furniture	36,732 52	3,554 84	588 00	40,875 36
Large Tools	9,470 83	6,455 73	648 92	16,575 48
Meters	460,149 93	10,551 75	10,476 74	461,178 42
Compressor Stations			2,683,632 63	2,683,632 63
Measuring Stations	26,530 59	51,380 11	38,339 73	116,250 43
Service Lines	313,628 22			313,628 22
Horses, Wagons and Autos	15,470 62	21,094 64	1,725 20	38,290 46
Drilling Tools		71,961 23		71,961 23
Cleaning Out Tools		46,931 27		46,931 27
Adjustment	4,494 75	782,468 99	2,581 00	789,544 74
Cost of Financing				193,782 85
Incomplete Construction				462,002 15
Total	$2,153,464 82	$15,106,472 12	$8,972,077 12	$26,887,799 06
	8.3%	56.4%	33.3%	100%

APPORTIONMENT OF RATE BASE AND EXPENSES

Apportionment of the joint use made of the gas production fields and the transmission system to the various divisions and cities supplied by the company, including the Cities of Ashland, Catlettsburg, and Louisa, the joint expenses, in case No. 13, City of Catlettsburgh, et al., v. United Fuel Gas Company, before the Railroad Commission of Kentucky, was made upon the basis of use in the proportion that the volume of gas supplied to each city and division bears to the entire volume produced, purchased, transported and delivered (sales basis). At p. 3 and those following of the report and exhibit filed by the complainants in case No. 13 (supra), are to be found citation of authorities sustaining said method as proper.

The following are cited as additional authorities to the same effect:

Re: Utica Gas & Electric Co. (N. Y.) decided Nov. 3, 1922, P. U. R. 1922 A. 146.

Re: Eaton Rapids (Mich) P. U. R. 1922 D 94.

Re: Interstate Light & Power Co. (Wis.) P. U. R. 1921 E. 161.

Pavilion Natural Gas Co. v. Tri-County Natural Gas Co. (N. Y.) P. U. R. 1923 D. 630.

City of Racine v. Racine Gas & Light Co. Wis. (1911) 6 R C R 228, 291.

City of Neenah v. Wisconsin Lt. Ht. & P. Co. Wis. (1910) 7 R C R 477, 479.

Long Branch v. Tintern Manor Water Co. (N. J) P. U. R. 1918 A. 178.

Re: West St. Louis Water & Light Co. (Mo.) Aug. 16, 1922, 12 Mo. P S C 513.

Re: Acquackanonk Water Co. (N. J.) P. U. R. 1923 D. 60.

Re: West Virginia Central Gas Co. (W. Va.) P. U. R. 1920 C. 470.

In re: United Fuel Gas Co., case No. 1251, on rehearing, decided August 9, 1923, Bulletin No. 82, unsuccessful

efforts were made by the company to induce the Commission to apportion the joint property and expense to Charleston, Huntington and other communities on the "demand basis." The Commission said "the demand basis is one of merit but it contains many uncertain elements." A similar effort to induce this Commission to adopt the demand basis for the allocation or apportionment of the joint property and expenses, as against the sales basis, should be denied.

CONSTRUCTION OVERHEAD CHARGES

In estimating the cost of reproduction of a public utility it has been customary to make claims for allowances of large sums for what is called "overhead charges," including in that term items for assumed cost of engineering, organization, administration, legal expenses during the construction period, interest and taxes during the same period, etc. The items are hypothetical and assume a probable cost, in the opinion of witnesses, in case a plant like the company's was now to be reproduced.

In the instant case the company's witness (see Wyer Exhibit No. 1, p. 14), has included in overhead charges "for promotion, organization, legal, engineering, superintendence, contingencies, interest, lease rentals, and taxes during construction," at a total of 20 per cent of the hypothetical reproduciton cost. According to the testimony of this witness, in case No. 845, before the Public Service Commission of West Virginia (supra), a large portion of this overhead percentage, and the same percentage as was used by him in said case, was attributed to "contingencies" (unforeseen occurences). It is conceded that a contractor called on to estimate the cost of constructing an entirely new plant, would add something for this item, but in estimating what a plant already constructed would cost to reproduce, such an item should occupy but a small place. In the tables herein, showing the rate base of property, we have used 15 per cent as construction overhead cost as

fair and doubtless considerably more than would be actually incurred in the construction of such a plant. Inasmuch as in this case the actual investment as shown by the books is not to be taken as the rate base, but is merely to be given consideration as one of the factors thereof, no construction overhead cost apply thereon, since the book figures are assumed to reflect actual performance.

DEPRECIATION AND DEPLETION

At pages 9 to 14 of the report and exhibit, dated October 4, 1921, and filed in case No. 13, City of Catlettsburg, et al., v. United Fuel Gas Co., before the Railroad Commission of Kentucky, Depreciation was defined and discussed. At page 11 thereof, was shown the amounts for Depreciation and Depletion, exclusive of the amount set up by the company at the appraised value of its gas acreage as set up annually for the years 1917 to 1920, inclusive, and that as of December 31, 1920, this amount showed a credit balance of $5,446,586.00. The company credited this account in 1921, $1,952,063.00; in 1922, $1,340,320.00, and expended therefrom in said years, $69,296.00, and $53,983.00, respectively, or a total such expenditures $123,279.00, leaving a balance to the credit of said reserve for Depreciation and Depletion, as of December 31, 1922, of $8,615,691.00; these figures are approximately correct; for the six months ending June 30, 1923, we have no exact data, but assuming that approximately $700,000.00 should be set aside for the six months of 1923, a credit balance of $9,315,692.00 should appear in said reserve account as of June 30, 1923, less of course, any expenditures therefrom made since January 1, 1923. This indicates an average amount of $1,475,000.00 set aside annually as a reserve for depreciation and depletion on the cost of the property beginning in 1917. Such a sum laid aside annually at 3 per cent interest compounded for 16 years, will amount to $31,813,995.00.

Further discussion of the subject of Depreciation and Depletion is to be found at pages 9 to 13, inclusive, of the report and exhibit filed in case No. 13 (supra). Inasmuch as in that case the actual cost of the properties as reflected by the books, and without adjustment, was taken as the rate base plus certain additions, no accrued depreciation was deducted therefrom, although many authorities hold that where a plant has been used for a number of years a deduction for depreciation must be made from the original cost, as well as from reproduction cost. (City of Minneapolis v. Rand, C.C.A., decided January 28, 1923, 285 Fed. 818 Syl. 6, 828). In the instant case, however, because the appreciated cost of the physical tangible property is claimed by the company as the rate base instead of the actual cost, it is proper to deduct the accrued depreciation. The company's witness on this subject gives it as his judgment that the accrued depreciation on the property as a whole (excluding gas acreage) but without attempting to fix it on any particular part would be about 20 per cent of the physical parts as of July 1, 1920, and at page 31, of the record, stated "that is only a matter of judgment; there is no way it can be computed; no formula that can be used." The witness stated further that no additional depreciation had accrued between January 1, 1920, at which date he fixed the accrued depreciation at 20 per cent, and July 1, 1923, a period of three and one-half years; an inconsistency that hardly needs comment.

There is one school of valuation engineers who lay claim to the possession ability to tell by inspection how far a public utility plant composed of many individual items of depreciable property has depreciated; that by merely looking it over they are able to say how much of its life had expired and what its remaining value is; perhaps steel rails and a few other items of property above ground can be judged by inspection, but that any one has the ability to examine well casing, buried pipe lines, consumers service pipes, regulators, meters, and many other gas utility devices and determine the internal condition of the equipment and what portion of its life had expired is obviously improbable.

Two well known methods for computing depreciation are used in the valuation of public utilities, namely, "the sinking fund" and the "straight line." The former assumes that the depreciation fund set aside each year draws interest which interest accumulates and adds itself to the annual sums set aside, so that the total amount thus accumulated, at the end of the life of the property just equals the amount lost by depreciation. The sinking fund method is frequently used in computing accrued depreciation of long lived utility property such as water works and artificial gas plants where cast iron pipe forms exclusively or to a large extent the greater part of the investment. The straight line method has been more largely used than any other where the estimated life of the plant is comparatively brief, like electric light and power and natural gas utilities, where, as, in the last named, steel pipe and other rapidly depreciating property forms a larger part of the investment. In City of Minneapolis v. Rand (supra), the Court said (p. 827):

> "The master allowed a rate of depreciation from the gross value found by him that averaged about 24 per cent. Assignments of error on behalf of the company and receivers question this deduction. Witnesses on its behalf testified to depreciation that averaged nearly 8 per cent of their estimated values of the property. While economists and engineers differ as to the proper method of meeting charges for wear and obsolescence, it is common experience that old articles that deteriorate by use are not of the same value as new articles of the same kind. In Knoxville v. Water Co., 212 U. S. 1, 102, 29, Sup. Ct. 148, 151 (53 L. Ed. 371) the court said, in speaking of the value of a plant for furnishing water to consumers in a city:
>
> 'The cost of reproduction is not always a fair measure of the present value of a plant which has been in use for many years. The items composing the plant depreciate in value from year to year in a varying degree. Some pieces of property, like real estate, for instance, depreciate not at all, and sometimes on the other hand, appreciate in

value. But the reservoirs, the mains, the service pipes, structures upon real estate, standpipes, pumps, boilers, meters, tools, and appliances of every kind begin to depreciate with more or less rapidity from the moment of their first use. It is not easy to fix at any given time the amount of depreciation of a plant whose component parts are of different ages, with different expectations of life. But it is clear that some substantial allowance for depreciation ought to have been made in the case.'

"In the Minnesota Rate Cases, 230 U. S. 352, 457, 458, 33 Sup. Ct. 729, 763, (57 L. Ed. 1511, 48 L. R. A.) (N. S.) 1151, Ann. Cas. 1916 A 18, the court said with reference to the property of a railway company:

'It would seem to be inevitable that in many parts of the plant there should be such depreciation, as, for example, in old structures and equipment remaining on hand. And when an estimate of value is made on the basis of reproduction new, the extent of existing depreciation should be shown and deducted. And when particular physical items are estimated as worth so much new, if in fact they be depreciated, this amount should be found and allowed for. If this is not done, the physical valuation is manifestly incomplete. And it must be regarded as incomplete in this case. Knoxville v. Knoxville Water Co., 212 U. S. 1, 10.'

"We cannot accept the theory of the company that there is no deductible depreciation, if the plant functions well, with the appliances it uses, as the question is not whether the plant is efficient, but what is the fair value. Its own witnesses concede a measure of depreciation, and claim to have based their estimates upon observation of its component parts; but it appears that the observations were made in 1918, and it is not claimed that any detailed observation was made of the buried mains of the company. Whatever observation was made, the percentages of depreciation, assigned are but estimates. The company

criticizes the estimate made by the city's witnesses, because of the use of the "straight line" method; that is reducing the original cost value of an article in the proportion that the period it has been in use bears to its total useful life."

"The questions involved are simplified by an agreement of what was the useful life period for all of the classes of property. Each case must be decided on its own circumstances, and no general rule can be given, for applying depreciation charges. The useful life of iron and steel pipe underground, exposed to deterioration from the elements, and the capability for prolonged service of machinery in active use in making and distributing gas, and of the structures that are connected with that work, can best be determined by witnesses whose experience and observation qualify them to give opinions on such matters. After careful consideration we are unable to say that in this case the master's conclusion as to the percentage to be adopted was erroneous. See Galveston Electric Co. v. City of Galveston, 258 U. S. 388, 42 Sup. Ct. 351, 66 L. Ed. (April 10, 1922). Applying the percentage of depreciation found by the master (23.78682 per cent) reduces the valuation of the physical property heretofore stated from $9,727,665 to $7,433,763."

In the rate cases before the Public Service Commission of West Virginia the total estimated life of the United Fuel Gas Company utility and of other natural gas utilities, has been fixed by the different witnesses testifying for periods ranging from 15 to 20 years; taking 20 years as the life would mean that it depreciates on the straight line method at the rate of 5 per cent per annum. In the report filed in case No. 13 (supra), before this Commission, it was shown (p. 10) that the company set up a reserve for depreciation and depletion at various percentages ranging from 3 per cent for buildings to 20 per cent for tools. By computing these percentages on the depreciable property in the instant case, a weighted average percentage of approximately 6 per cent was derived, which equals an estimated life of 16-2/3 years for the property as a whole.

In said computations no consideration was given for salvage value (usable not as junk but as serviceable property elsewhere), not withstanding the fact that a considerable amount would be realized from its pipe and other materials, when, if ever, the time comes that its gas supply is exhausted and its business wound up. Computations made by us show that the average age of the tangible physical property of the company as of June 30, 1923, was slightly in excess of 8 years; accordingly, 20 per cent accrued depreciation for 8 years is testified to by the company's witness would mean that this property had depreciated only $2\frac{1}{2}$ per cent per year, whereas, the company contends for an allowance, and is allowed, more than double that percentage per year as a reserve to cover accruing depreciation and depletion of its property and which depreciation and depletion is continually going on. Assuming a straight line depreciation at the rate of 5 per cent per annum, as hereinabove explained and the minimum average age of investment as 8 years, would give an accrued depreciation of 40 per cent. However, said percentage has not been used in the computations of the rate base herein, 30 per cent accrued depreciation in lieu thereof having been adopted as indicative of the desire on the part of the defendant cities to be eminently fair. As hereinbefore stated, the gas acreage (gas leaseholds), included in the rate base by us at actual cost without deduction for depletion (gas taken therefrom), not withstanding that from January 1, 1910, to June 30, 1923, the company has sold 534,019,209 M cu. ft. of gas. Assuming that it purchased an average of 25 per cent thereof, its production from this acreage has amounted to 400,514,407 M cu. ft. from 1909 to June 30, 1923.

WORKING CAPITAL.

At page 8 of the report and exhibit filed by the plaintiffs in case No. 13, City of Catlettsburg, et al., v. United Fuel Gas Co., the function of working capital and the customary inclusion thereof in the rate base, together with

the sum deemed necessary and the basis for its determination were fully set forth. The company did not contest the amount allowed for this item in said case and the same basis of determination has been adopted in the instant case.

In none of the rate cases of the United Fuel Gas Co. before the Public Service Commission of West Virginia, so far as we have been able to ascertain, was the amount allowed by the protestant Cities (Huntington, Charleston, et. al.), in their testimony, objected to by the company; such allowances were, however, computed upon 5 per cent of the rate base, concededly an erroneous basis, since the amount of property involved is not indicative of the amount of business which an enterprise transacts, or the amount of its operating expenses. Nor is the average amount of cash on hand a proper basis, because working capital in a rate case does not include reserve funds for bond interest, sinking funds, construction capital (cash and material for new construction). Another fact to be considered in connection with the matter of working capital is in estimating two months' operating expenses as was done herein to determine the amount of working capital ($600,000.00) these operating expenses included approximately $800,000.00 for taxes, which are accrued before payment rather than after. The company is, therefore, accruing money which is paid out not oftener than at six months' intervals, instead of monthly as in the case of other operating expenses. Under this method of accrual and, say, semi-annual payment of taxes, the company will evidently have an average of one quarter of this sum on hand at all times, which may, therefore, be deducted from the amount necessary to be considered as a part of the working capital. The operating expenses as reflected on the books include, of course, materials and supplies.

GOING VALUE—GOING CONCERN VALUE

The inclusion of this intangible value in the rate-making value in case No. 13 (supra), has been mentioned hereinbefore. Moreover, at that time it was the general

opinion that the U. S. Supreme Court had made the inclusion of some amount for this intangible something in the rate base obligatory; since then, that court has passed upon the question again and there seems great doubt, whether, in a rate case, anything should be included, no matter by what name called, for the difference between an assembled and established system and plant, doing business, and actually earning money or capable of doing so, valued upon the basis of a plant in actual successful operation, and the value of component parts of such system and plant; or, in other words, the difference between its physical property and the value of those properties connected and operating successfully; the expenses incurred and losses sustained between the time when its initial plants and properties were first put into operation and the time when they became respectively self-supporting, provided they became self-supporting within a reasonable time. (Galveston Elec. Co. v. Galveston, supra) and see Houston v. Southwestern Bell Telephone Co., 259 U. S. 318 P. U. R. 1922 D. 793, where the court said that whether going value should be considered and allowed at all in determining the base for rate-making, and, if allowed, what the amount should be, depends upon the financial history of the company, citing Galveston Elec. Co. v. Galveston (supra).

The inclusion of $2,500,000.00 for going concern value in the rate base herein is to be considered provisional and not as binding upon the defendant cities in any other proceeding growing out of this case.

GASOLINE EXTRACTION

Since the hearing before this commission on October 7, 1921, the United Fuel Gas Co., organized in April, 1922, the Virginian Gasoline and Oil Company, and transferred to it all of the gasoline stations, tank cars, oil obtainable from certain tracts of land, in which the United Fuel Gas Co. owned the fee title in the oil, the oil interests in all of its then joint oil and gas leaseholds and the carbon black

plant owned by it, together with the land on which it is situated.

In consideration of the aforesaid transfer of property and rights the Virginian Company issued to the United Fuel Gas Co. 8,897 shares of its capital stock of $100.00 par value and assumed $1,717,000.00 of the first mortgage bonds of the United Fuel Gas Co. The capital stock given in payment represented the total shares authorized to be issued at the time with the exception of five directors' qualifying shares. The depletion and depreciation reserve applicable to the property transferred were also taken over by the Virginian Company.

Subsequent to May 1st, 1922, there was transferred from the books of the United Fuel Gas Co., to those of the Virginian Company the added value which had been found through an appraisal of the operated and unoperated oil acreage and certain adjustments were made of the sinking fund obligation, following the assumption of a portion of the bonds, but no part of the cost of such acreage carried on the books of the United Fuel Gas Co. was transferred to the Virginian Company, because of the fact that under an agreement the Virginian Company is to re-imburse the Gas Company for all delay rentals after May 1, 1922, in the case of the presently unoperated tracts upon which oil in paying quantities may be discovered at some future date. In the case of bonuses paid upon the renewal of joint gas and oil leases the cost is divided equally.

In a separate agreement the privilege of extracting gasoline from the gas produced and transmitted by the United Fuel Gas Co., is given to the Virginian Company upon the payment of a royalty one-eighth of the gross proceeds derived from the sale of gasoline extracted.

The foregoing will indicate the relationship existing between the two companies, which in effect is that the Virginian Company is a subsidiary and undoubtedly as such is controlled by the United Fuel Gas Co.

In case No. 1251, before the Public Service Commission of West Virginia (supra) on rehearing, the last named commission allowed and deducted from the operating ex-

penses of the Gas Company only one-eigth of the gross proceeds from the gasoline business, instead of one-half of the net proceeds as had been done theretofore. This is one of the questions in issue in the appeal of the City of Huntington, et al., to the Supreme Court of Appeals of West Virginia, hereinbefore mentioned.

The record in the before mentioned case contains copy of a memorandum from the United Fuel Gas Co., to the Columbia Gas & Elec. Co., under date of July 18, 1918, which sets forth that in consideration of the allowance of 3 cents per M cu. ft. from the price of all gas delivered by the United Fuel Gas Co. to the Columbia Gas and Electric Co. and the Ohio Fuel Supply Co., said last named companies agreed to relinquish any claim that might be made against the United Company because of the extraction of gasoline from the gas delivered to these companies. It would appear, therefore, that the United Fuel Gas Co. has placed the fair value of the gasoline extraction at the rate of 3 cents per M cu. ft.

In the computations shown under tables 8, 9 and 10 hereof, no consideration has been given to the revenues to be derived from gasoline. But said action is not to be construed as a waiver on the part of the defendant cities of the propriety of reducing the operating expenses to the extent of the fair value of the gasoline extraction privileges.

UNRELIABILITY OF COMPANY'S REPRODUCTION COST

The company presents two reproduction cost estimates for the consideration of the Commission, namely, Exhibit No. 1, to show the cost of reproduction of the property in existence as of January 1, 1920, based on average prices covering the period of ten years prior to September 1, 1915; and a reproduction cost estimate of the same property, Exhibit No. 2, based upon, to use the witness's words at page 28 of the record,

> "We took list of quantities as of that date (January 1, 1920) and applied net prices that reflected

the market conditions for about six to nine months previous to arbitrary quantity date that we took. In other words, the price conditions that we have there represent the price situation that you would be face to face with if you started to build a plant of that sort at that particular time, January 1, 1920."

As will be noted from the exhibits contained in appendix 1, prices of "All Commodities" and of "Metal and Metal Products," as shown by the Bureau of Labor Statistics were practically at the peak at or about January 1, 1920. No reason was given by the witness or by anyone for the company, why a valuation for rate-making purposes at the end of 1923 should include only the property in use at Jaunary 1, 1920, and should be based upon prices prevailing on or about January 1, 1920, since Commissions fix rates for the future. Obviously, said date was selected for the purpose of showing the highest possible cost of reproduction estimate and that the amount thus shown would be sufficiently greater so that all additions to property made subsequent to said date would become insignificant.

Believing that an analysis of the Wyer Exhibits Nos. 1 and 2 should prove interesting to the Commission in this connection, we shall undertake briefly to make the same. At the outset it should be said that all reference to reproduction cost herein relates to the tangible property exclusive of gas leasehold acreage.

"Wyer Exhibit No. 1."

Deducting $32,054,600.00 as the figures for the natural gas leases from the total of $50,181,663, shown at page 2, leaves $18,127,063, included in which sum are items shown in detail at page 78, and include farm maps $232,136.00; loose stock $505,192.00; incomplete construction $332,860.00. All figures include 20 per cent construction overhead cost. Of course, incomplete construction at January 1, 1920, is out of place for rate-making purposes at the end of 1923; furthermore, "Loose stock," if meaning thereby only repair materials and supplies on hand, are includible in work-

ing capital, hence forms no part of a rate-making value separate and distinct therefrom. Deducting these two items and 20 per cent construction overhead cost, would leave a sum represented by $14,432,310 undepreciated. By reference to table 1, as of December 31, 1919, lines 20, 22 and 23 show the actual cost of the property as per the books to be $15,070,277, or $637,967.00 more than the reproduction cost estimate aforesaid, based upon alleged prices average over the 10 year period ended September 1, 1915. Consideration being given to the fact that in the years 1916, 1917, 1918 and 1919, which said reproduction estimate embraces, additions to property were made as shown by table 1 hereof aggregating $4,400,580.00, and at a time when war prices were in full force and effect would tend to the conclusion that the unit prices used in said Exhibit must have been considerably higher than if averaged over ten or more years prior to September 1, 1915.

"Wyer Exhibit No. 2."

Omitting again the natural gas leases, items 2 to 11 thereof show $30,498,301.00, which together with item 12 gives a total of $34,577,032.00, and after deducting one-sixth, representing 20 per cent construction overhead cost, of $5,762,832.00, leaves $28,814,200.00. This being exclusive of the building, office equipment, welding tools and equipment, shown at page 78 of Exhibit No. 1, as $126,600.00. The item of general headquarters was increased by approximately 31 per cent between the figures given in Exhibit 1 and 2; adding this percentage to the building, etc., above mentioned, gives a total of $138,047.00, or a total of $28,952,240.00 as the reproduction cost estimate, undepreciated, at 1920 prices, exclusive of farm maps, which, apparently, not having been included in the actual cost statement appearing on the books, is not considered in this particular analysis. Table 1 shows the actual cost investment of the aforesaid property as of January 1, 1920, to be $15,070,277.00. Comparing this figure with the reproduction cost estimate, namely, $28,952,247.00, above stated, shows that under said reproduction cost estimate the actual cost has been increased 92.2 per cent. And it

should be emphasized again that additions to the property included in said reproduction cost estimate, as made from January 1, 1916, to December 31, 1919, amounted to $4,400,-580. Obviously, the Commission can give no serious consideration, if any, to said exhibits.

PRICE TRANSLATION

In a number of valuation and rate cases before Railroad and Public Utilities Commissions in the recent past where the utilities have contended for present-day prices as the basis for the determination of the rate-making value, and especially where in the absence of actual cost data, reproduction appraisals at pre-war prices that had been used in prior proceedings before the same Commission to determine the rate base were in existence, the question arose as to what method was to be adopted in order to give consideration to post-war prices, that is to say, how the pre-war appraisals were to be translated into post-war valuations.

The publications of the United States Department of Labor, Bureau of Statistics, were resorted to in a number of instances; in others, opinion evidence was considered, but in the majority of these cases the statistics published by the government were taken as the chief guide.

The Virginia State Corporation Commission, in Petersburg Gas Co. P. U. R. 1923 B, p. 259, decided August 23, 1922, valuation as of June 30, 1920, the Commission, at page 267, said:

> "Fifteen per cent is the appreciation determined as proper in the case at bar, applicable to net physical property in place June 30, 1920, using, as heretofore explained, an average of 1912-1916 prices on property in place December 31, 1916, and additions at cost from that date to June 30, 1920, and not applicable to land, materials and supplies, which are taken at present prices."

The same Commission, case No. 1138, rehearing on valuation of Virginia Railway & Power Co., decided April 12, 1922, P. U. R. 1922 B, p. 352, said:

"In this case, the company did not claim a value based on the unit prices of 1920, at which time the appraisal was made by Stone & Webster, but used a sum arrived at by applying to the 1920 property an average between the 1914 and 1920 unit prices."

And also said:

"To be more exact, the Commission begins with 1920 property at 1914 prices (less 1914 land) as shown in the engineering appraisal. We deduct the additions between 1914 and 1920 at 1914 prices, thereby arriving at approximately the 1914 appraisal on 1914 inventory. As in the main case, 20 per cent is added for overhead construction costs. This 1914 property including overheads is appreciated for seven years, or to the end of 1921, at three per cent. compounded. There must then be included the additions from 1914 through 1921 at actual cost. This property is then depreciated and the land is readded at 1920 value."

The same Commission, in re: Lynchburg Traction & Light Co., P. U. R. 1921 E. p. 87, decided August 6, 1921, at page 92 said:

"Following the rule laid down by the Commission in its case No. 1138, upon application of the Virginia Railway & Power Co., for increase in its rates for light and power, the engineers for the Lynchburg Traction & Light Co. have added a normal appreciation in values. This is intended, as explained in the Virginia Railway & Power Co. case to comply with the requirements of United States Supreme Court decisions to the effect that utilities are entitled to earn a return upon the reasonable fair value of their property at the time it is being used by the public. Rather than calculate this fair value upon inflated costs represented by war-time prices, the Commission attempts to estimate what might have been a normal appreciation the value of the property had there been no war. In this case, the engineers use and apply the normal average annual advance in prices in the years between 1900 and 1915, as published by the United States Department of Labor. The figures are moderate and below what we allowed in the case above cited."

It then sets forth at page 93 P. U. R. 1921 E, a table showing the computation for appreciation, which was by taking the estimated cost of reproduction as of December 31, 1916, based on average prices for years 1912-1916 and increased said value to February 1, 1921, by adding 10.8 per cent, and then added the actual cost of additions to property from January 1, 1917, to February 1, 1921, and deducted 21 per cent therefrom for accrued depreciation.

The Maine Utilities Commission, in re: Penobscot County Water Co., P. U. R. 1923 B, p. 771, fixed the value of the property as of January 1, 1922, by increasing the reproduction cost less depreciation valuation as of December 31, 1916, based on average prices for the period 1912 to 1916, by the percentage indicating the increased average prices prevailing during the period of 1913 to 1917, and adding additions to the date of the valuation.

In re: United Railways Co. of St. Louis, P. U. R. 1923 D, p. 759, the Missouri Public Utilities Commission, after saying that some consideration must be given in a rate valuation case to prices current at the date of investigation, not only to land but in fixing the value of other utility property, added 50 per cent to the investment cost of the physical property of the Street Railway in view of the increased cost of materials and labor due to present-day prices. This case was decided June 4, 1923.

In Minneapolis v. Rand, 285 Fed. 818, (supra) came to the Circuit Court of Appeals from the Federal District Court, which had approved the special master's valuation of the Minneapolis Gas Co. as of January 1, 1920, by adding to the actual cost appraisal, 25 per cent for appreciation. The evidence was undisputed that the cost prices of the property were far below the market prices of such articles at the end of 1919. The greater portion of the property was constructed before 1914 and before the advance in prices incident to the war had begun. It was shown that the prices of labor and materials such as are required in the construction of a plant of that nature, had advanced in varying amounts from 1914 to 1920, many classes having advanced from 100 to 300 per cent. It was also shown that

between 1910 and 1920, prices of fifteen classes of building material, such as are used by the gas company, had increased 139 per cent, skilled labor 92 per cent, common labor 150 per cent, cement 140 per cent, lumber 215 per cent, and common brick 123 per cent, iron and steel pipe used in the mains of the company had increased in price 169 per cent since 1910; that gas meters had increased in price 65 per cent since 1910. The master said that if he applied the prices then prevailing to the property of the company it would result in a valuation between two and three times the valuation he had placed upon it. The master deducted from his findings of the appreciated value 24 per cent, for accrued depreciation, notwithstanding the fact that the largest proportion of the gas property consisted of cast iron pipe, the estimated life whereof as usually taken by appraisers averages 100 years.

The Court, at page 837 (supra) said:

> "Our conclusion is that the master's increase of the undepreciated cost price of $6,485,777.00 by 25 per cent is too low, and that this base should be increased by 50 per cent of $3,242,888.00 making a total undepreciated valuation of the physical property of $9,727,665."

This case was practised for the company by the present Mr. Justice Pierce Butler of the Supreme Court of the United States.

And in Galveston Electric Co. v. Galveston (supra), as hereinbefore stated, a valuation made in the year 1920, for rate-making, question of confiscation, the master added 33-1 3 per cent to the actual cost valuation for appreciation, as sufficient consideration for the then existing prices of material and labor in the face of an admitted increase of 110 per cent above pre-war prices; and see also Brush Electric Co. v. Galveston (supra).

In re: Coast Gas Co. et al., before The New Jersey Board of Public Utility Commissioners, P. U. R. 1923 D, p. 352, an artificial gas valuation and rate case on rehearing. The company claimed that the valuation placed by the Board upon its property in 1915 and remaining in use in

1922, should be determined by the translation of its tangible property to present value by the use of the index numbers of the United States Bureau of Labor Statistics, 1915 equalling 100, projected on secular trend to 1926. The Board appreciated the 1915 valuation which was $666,306 by adding 33 per cent thereto, which was determined to be the average index number 1922-26, and added thereto adjusted to the 1922-26 level such additions of property as were made beginning January 1, 1916, to 1922, inclusive, which resulted in an amount of actual cost additions of $211,841.00, being reduced to $179,148.00. The tables showing these computations are to be found at pages 373 and 374 of P. U. R. 1923 D.

Wholesale prices of "All Commodities" issued by the United States Bureau of Labor Statistics, which furnish the most extensive authoritative source of recorded wholesale prices. The Bureau publishes a trend of index of "All Commodities" which begin with 1890 and which has been reported each month beginning January, 1913. It also reports the wholesale prices of all the important elements that are included in "All Commodities."

Believing that the statistics of wholesale prices of "All Commodities" furnish the most reliable guide in cases of this nature for the translation of pre-war prices to figures to be given consideration in reproduction cost estimates and as indicative of the trend of prices for the future, we have compiled and the same forms appendix 1 to this report, Table 4 showing secular trends computed from index numbers of the United States Bureau of Labor Statistics based on the period 1896 to 1914, inclusive, index numbers for 1913 taken as 100; and as an aid to visualizing and comparing differences in prices of "All Commodities' and "Metal and Metal Products," Table 4 has been plotted graphically in Table 5. Table 5 (a) thereof shows the purchasing power of the dollar as computed by the United States Bureau of Labor Statistics. Explanatory text of these tables accompanies the same.

Based on the information therein contained, Table 6, which follows this, was constructed to show the yearly

TABLE 6.

YEARLY ADDITIONS AT ACTUAL COST, PER BOOKS, WITH ADJUSTMENTS FOR LAND AND FOR WELL CONSTRUCTION AND TRANSLATIONS OF THOSE VALUES FROM PRICE LEVELS OF EACH YEAR TO UNIFORM PRICE LEVELS OF DEC. 31, 1922, AND JUNE 30, 1923, ACCORDING TO PRICE INDEX NUMBERS

Line No.	Year	Total Additions at Actual Cost for Year per Books	Deduct Land, estimated at ½ Value of Item for "Buildings"	Percentages of "Well Casing" **	Redistribution of Item, "Well Construction," from 1917 (applying to 1909-1914) on ½ basis of "Well Casing"	Total Adjusted Additions, at Actual Cost for Year b—c+e	Additions to 1922 Basis "All Commodities," 1922 Price Level: Current Index Number, 1913 equals 100%	Actual Index Number, 1922	Multiplier h÷g	Additions Adjusted to 1922 Price Level f×i	Additions to June 30, 1923 Basis "All Commodities," 1923 Price Level: Current Index Number, 1913 equals 100%	Actual Index Number, 1923	Multiplier l÷k	Additions Adjusted to 1923 Price Level m×f
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
1	1909 6 Mos	$ 129,674.57	$ 292.02	0.6%	$ 10,581.38	$ 139,963.93	97	149	1.54	$ 215,545	97	155	1.60	$ 223,937
2	1910	4,089,192.25	10,226.58	43.6%	768,913.83	4,847,879.50	101	149	1.48	7,174,862	101	155	1.54	7,465,735
3	1911	1,357,915.61	3,690.24	23.8%	419,728.19	1,773,953.56	93	149	1.60	2,838,326	93	155	1.67	2,962,503
4	1912	438,853.93	7,676.48	2.3%	40,561.97	471,739.42	99	149	1.51	712,326	99	155	1.57	740,630
5	1913	967,173.91	10,711.58	15.0%	264,534.58	1,220,996.91	100	149	1.49	1,819,286	100	155	1.55	1,892,545
6	1914	935,566.94	7,211.72	14.7%	259,243.88	1,187,599.10	98	149	1.52	1,805,150	98	155	1.58	1,876,406
7	1915	1,019,046.16	36,678.16			982,368.00	101	149	1.48	1,453,905	101	155	1.54	1,512,847
8	Subtotal	$ 8,937,423.37	$ 76,486.78	100.0%	$1,763,563.83	10,624,500.42			1.50	$16,019,400			1.57	$16,674,623
9	1916	1,213,686.60	206.69			1,213,479.91	127	149	1.17	1,419,772	127	155	1.22	1,480,446
10	1917	3,358,403.78	8,953.71		$1,763,563.83**	1,585,886.24	177	149	.84	1,332,144	177	155	.88	1,395,580
11	1918	804,156.33	26,366.35			777,789.78	194	149	.77	598,898	194	155	.80	622,232
12	1919	753,116.34	*22,717.92*			757,834.26	206	149	.73	566,359	206	155	.75	581,875
13	1920	1,392,848.57	26,088.43			1,366,760.14	226	149	.66	902,062	226	155	.69	943,064
14	1921	1,372,179.93	29,028.08			1,343,151.85	147	149	1.01	1,356,584	147	155	1.06	1,423,74
15	1922	540,570.32	7,022.26			533,548.06	149	149	1.00	533,548	149	155	1.04	554,890
16	Subtotal		$151,434.84			$18,220,950.66			1.25	$22,728,767				
17	1923 6 Mos	258,927.01	1,171.71			257,755.32					155	155	1.00	257,755
18	Totals	$18,631,312.27	$152,606.29			$18,478,705.98							1.30	$23,934,206

*Addition, being replacement of an item of $45,435.83 covering building and land, deducted from figure in col. b, offset by deduction of $22,717.91 estimated value of buildings only, in this item, giving net addition of $22,717.92 as above.

**Prior to 1915, all "Well Construction" cost except well casing was charged to operating expense, the total amount so charged being $1,763,563.83. In 1917 this amount was transferred to the capital account, and therefore is included in the Total Additions for that year of $3,358,403.78. In column e above this amount has been deducted from the total for 1917 and redistributed to the years 1909 to 1914 inclusive, in the same percentages as the expenditures for "Well Casing," shown in column d.

additions of the natural gas property from 1909 to June 30, 1922, translated from price levels of each of said years to a uniform price level as of December 31, 1922, and June 30, 1923, respectively. Said table shows the re-distribution of the item "well construction," $1,763,563.83 which had accrued prior to the year 1915, but had been charged to operating expenses, and was subsequently transferred to capital account and appears thereunder in the year 1917; and also shows adjustment of the estimated value of the land embraced in the item of "buildings" in the statement of investment, as per Tables 1, 2 and 3. It will be observed that these translations give consideration to the enhancement of prices dating back to the year 1909, and for each year thereafter, to June 30, 1923. The result of these translations in prices is that where increases in price since the additions to property have occurred, these are allowed, whereas, where decreases in price have occurred these are reduced to conform to the levels obtaining in the years 1922 and 1923, respectively. No consideration is given to the trend prices projected to 1926 or 1927, as was done in the Coast Gas Co. case (supra).

It may be stated that this table deals, as adjusted, exclusively with all the property except land, rights of way and the gas leasehold acreage.

Table 7 following brings forward these adjusted appreciated values, and shows how the rate base for the year ended December 31, 1922, and for the period ended June 30, 1923, has been determined. It should be noted that the land according to the adjustment set forth in Table 6 has been appreciated 60 per cent and the rights of way have been appreciated 33-1 3 per cent over the estimated actual cost; by the addition of gas leasehold acreage at cost without deduction for depletion, Going Value, Working Capital and Incomplete Construction at the several periods, the valuation as of December 31, 1922, was $28,669,265.00, and as of June 30, 1923, was $29,961,927.00.

TABLE 7

UNITED FUEL GAS COMPANY

Showing rate base of the total natural gas property as of December 31, 1922, on 1922 price level based on "All Commodities"; and as of June 30, 1923, on 1923 price level based on "All Commodities"

	Dec. 31, 1922 1922 Prices based on "All Commodities"	June 30, 1923 1923 Prices based on "All Commodities"
Value for Dec. 31, 1922, from Table 6, column j	$23,728,767	
Value for June 30, 1923, from Table 6, column n		$23,934,206
Overhead Charge at 15%	3,409,315	3,590,131
Subtotal	$26,138,082	$27,524,337
Less Accrued Depreciation, 30%	7,841,425	8,257,301
	$18,296,657	$19,267,036

	Dec. 31, 1922	June 30, 1923		
Land from col. c	$151,415	$152,606		
Add 60% appreciation	90,881	91,564		
Rights of way	330,991	232,682		
Add 33⅓% appreciation	76,997	77,561		
Land and rights of way	$550,284	$554,413	550,284	554,413
Acreage, Dec. 31, 1922			6,525,375	
Acreage June 30, 1923				6,578,476
Going Value			2,500,000	2,500,000
Working Capital			600,000	600,000
Incomplete Construction, Dec. 31, 1922			196,949	
Incomplete Construction, June 30, 1923				462,002
Rate Base Dec. 31, 1922			$28,669,265	
Rate Base June 30, 1923				$29,961,927

Table 8 following this, shows adopted as the rate base as of December 31, 1922, revenues, expenses and operating profit for the whole natural gas property, and for the property as apportioned to the service of the defendant cities and in all other divisions, together with the volume of sales of gas in M cu. ft. for the entire property and in the cities and divisions aforesaid, and the amount in cents per M cu. ft. earned in excess of 8 per cent and 10 per cent return respectively, on said rate base, and the rate per M cu. ft. required to yield said rates of return.

Table 9 next following, shows the same information as of June 30, 1923, upon a rate base as of said date, of $30,000,000.00.

Table 10 next following, is constructed by taking the rate base as established in case No. 1251, before the Public Service Commission of West Virginia on rehearing (supra), namely, $34,000,000.00, and shows the same information that is contained in Tables 8 and 9, hereof, computed on said rate base.

We have also constructed Table 11, which conforms to the formula of the valuation in Galveston Electric Co. v. Galveston (supra), by taking the property in use as of December 31, 1915, less land, rights of way and gas leaseholds, plus 33-1 3 per cent for appreciation, adding thereto additions of property from January 1, 1916, to June 30, 1923, at cost, plus construction overhead costs, deducting therefrom 30 per cent accrued depreciation, re-adding land at cost, plus 60 per cent appreciation, rights of way at cost, plus 33-1 3 per cent appreciation, gas leasehold acreage at cost without deduction for depletion, working capital, going concern value, and incomplete construction, which gives a rate base as of December 31, 1922, of $27,890,438.00. Said table appended follows this.

We have also constructed Table 12, which shows the rate base of the whole natural gas property as of June 30, 1923, by adopting the Wyer appraisal, Exhibit No. 1, as of January 1, 1920, exclusive of the gas leasehold acreage, with certain adjustments therein set forth, and appreciating the

same 61.2 per cent, based on "All Commodity" index numbers 1923, as 155 per cent, as compared to "All Commodity" index numbers 1906-15 as 96.2 per cent, and adding thereto additions of property made during the year 1920 reduced to 1923 levels, as per line 13, column m, Table 6; and additions of property made in 1921 and 1922 increased to 1923 levels as per lines 14 and 15, respectively, of column m, Table 6; and adding thereto additions of property made in the year 1923, at 1923 levels, plus overhead construction costs and deducting accrued depreciation; adding thereto gas leasehold acreage at cost without deduction for depletion, with working capital, going concern value and incomplete construction as of June 30, 1923, which gives a rate base as of June 30, 1923, of $31,403,871.00. Said table appended follows this.

We have also constructed and present herewith, Table 13, which shows the rate base of the whole natural gas property as of June 30, 1923, constructed on the formula employed by the Railroad Commission of Georgia in Georgia Railway & Light Co. (supra), by taking the actual investment cost as of June 30, 1923, without deduction for cost of financing, adjustment, or otherwise changing the amount set forth in the statement of actual investment, as shown in Table 3 hereof, deducting from said investment cost the estimated cost of the land and rights of way, then appreciating the land at 60 per cent and the rights of way at 33-1/3 per cent, and adding the same thereto, plus working capital and going concern value (incomplete construction as of said date is included in the investment cost), which gives a rate base as of June 30, 1923, of $30,156,924.00. It should be noted, however, that in this table no deduction has been made from the physical tangible property for accrued depreciation, and to that extent the same differs from the Georgia Railway & Light Co. as employed by the Georgia Commission. Said table appended follows this.

TABLE 8.

UNITED FUEL GAS COMPANY.

RATE BASE, REVENUES, EXPENSES AND OPERATING PROFIT.

Showing per cent earned on the whole natural gas property, and on the property used in the service in the Cities of Ashland, Catlettsburg, Louisa and Russell, Kentucky, and other divisions, and the volume of sales of gas in M. cubic feet for the whole natural gas property and in the cities and divisions aforesaid; and the amount in cents per M. cubic feet earned in excess of 8% and 10% return respectively; and the rate per M. cubic feet required to yield 8% and 10% return respectively.

Year Ended December 31, 1922.

Line No.		Basis of Distribution	Item	Total Property	City of Ashland	City of Catletts-burg	City of Louisa	City of Russell	Other Ashland Division	Wholesale and All Other Divisions
1	Apportionment Bases			100%	2.60%	33%	18%	12%	2.27%	94.5%
2	Production		$15,988,500							
3	Transmission		10,146,000							
4	Total Production and Transmission	Sales		$26,134,500	$ 679,500	$ 86,300	$ 47,100	$ 31,300	$ 593,300	$24,697,000
5	Distribution	Direct		2,365,500	211,200	52,300	20,800	16,000	30,200	2,035,000
6	Total Rate Base			$28,500,000	$ 890,700	$138,600	$ 67,900	$ 47,300	$ 623,500	$26,732,000
	Less Non-Depreciating Property									
7	Real Estate and Rights of Way		550,284							
8	Working Capital		600,000							
9	Going Concern Value		2,500,000							
10	Total Non-Depreciating Property	Sales		3,650,284	94,900	12,100	6,60.	4,300	82,900	3,449,484
11	Total Depreciable Property			$24,849,716	$ 795,800	$126,500	$ 61,300	$ 43,000	$ 540,600	$23,282,516
12	Revenues from Sales of Gas	Direct		6,839,470	377,610	49,524	27,304	16,783	323,829	6,044,420
	Operating Expense:									
13	Gas Purchased		602,494							
14	Production Expense		1,283,086							
15	Transmission Expense		558,536							
16	General		143,446							
17	General Taxes		581,010							
18	Total Operating Expense	Sales		3,168,572	62,383	10,456	5,703	3,802	71,927	2,994,301
19	Distribution Expense			139,423	15,510	4,997	842	613	1,744	115,717
20	Commercial Expense			113,022	9,725	3,137	971	707	2,011	96,471
21	Total			$ 3,421,017	$ 107,618	$ 18,590	$ 7,516	$ 5,122	$ 75,682	$ 3,206,489
22	Depreciation and Depletion 6% on Item 11			1,490,983	47,748	7,590	3,678	2,580	32,436	1,396,951
23	Total Operating Expense including depreciation and depletion			$ 4,912,000	$ 155,366	$ 26,180	$ 11,194	$ 7,702	$ 108,118	4,603,440
24	Income from Sale of Gas			1,927,470	222,244	23,344	16,110	9,081	215,711	1,440,980
25	Miscel. Operating Income	Income from Gas		10,347	1,193	125	87	49	1,158	7,735
26	Non-Operating Income									
27	Gross Income			$ 1,937,817	$ 223,437	$ 23,469	$ 16,197	$ 9,130	$ 216,869	$ 1,448,715
28	Income Tax	Gross Income		209,829	24,194	2,541	1,754	989	23,483	156,868
29	Gross Income after allowance for income tax			$ 1,727,988	$ 199,243	$ 20,928	$ 14,443	$ 8,141	$ 193,386	$ 1,291,847
30	Per Cent Return on Rate Base			6.06%	22.37%	15.10%	21.27%	17.21%	31.02%	48.33%
31	Sales of Gas in M. Cubic Feet			46,867,511	1,215,249	154,531	85,604	52,463	1,065,467	44,294,197
32	Amount required for 8% return on Rate Base			2,280,000	71,256	11,088	5,432	3,784	49,880	2,138,560
33	Gross Income in excess of 8%			552,012**	127,987	9,840	9,011	4,357	143,506	846,713**
34	Equivalent in Cents per M. Cubic Feet sold			1.18c**	10.51c	6.37c	10.65c	8.31c	15.34c	1.91c**
35	Amount required for 10% return on Rate Base			2,850,000	89,070	13,860	6,790	4,730	62,350	2,673,200
36	Gross Income in excess of 10%			1,122,012**	110,173	7,068	7,653	3,411	131,036	1,381,353**
37	Equivalent in Cents per M. Cubic Feet sold			2.40	9.08	4.58	8.95	6.51	12.31	3.12**
38	Rate per M. Cubic Feet required to yield 8%			2.07c	25.8c	21.5c	23.8c	17.1c		
39	Rate per M. Cubic Feet required to yield 10%			2.21c	27.6c	23.1c	25.6c	18.2c		

*Non-Operating Income, 1922, $12,588, not included

**Minus

TABLE 9.

UNITED FUEL GAS COMPANY.
RATE BASE, REVENUES, EXPENSES, AND OPERATING PROFIT.

Showing per cent earned on the whole natural gas property, and on the property used in the service in the Cities of Ashland, Catlettsburg, Louisa and Russell, Kentucky, and other divisions; and the volume of sales of gas in M. cubic Feet for the whole natural gas property and in the cities and divisions aforesaid; and the amount in cents per M. Cubic Feet earned in excess of 8% and 10% return respectively; and the rate per M. Cubic Feet required to yield 8% and 10% returns respectively.

Six Months Ended June 30, 1923.

Line No.		Basis of Distribution	Item	Total Property 100%	City of Ashland 3.78%	City of Catletts-burg 42%	City of Louisa 20%	City of Russell 14%	Other Ashland Division 3.46%	Wholesale and All Other Retail Divisions 92.0%
1	Apportionment Bases									
2	Production		$16,920,000							
3	Transmission		10,590,000							
4	Total Production and Transmission	Sales		$27,610,000	$1,040,000	$115,600	$ 55,000	$ 38,500	$ 951,900	$25,309,000
5	Distribution	Direct		2,450,000	221,900	54,900	21,200	16,600	33,400	2,142,000
6	Total Rate Base			$30,060,000	$1,261,900	$170,500	$ 76,200	$ 55,100	$ 985,300	$27,451,000
	Less Non-Depreciable Property									
7	Real Estate and Rights of Way		554,413							
8	Working Capital		600,000							
9	Going Concern Value		2,500,000							
10	Total Non-Depreciating Property	Sales		3,654,413	138,100	15,400	7,300	5,100	126,500	3,362,013
11	Total Depreciable Property			26,345,587	1,123,800	155,100	68,900	50,000	850,800	24,088,987
12	Revenues from Sale of Gas	Direct		4,247,045	300,384	34,092	16,496	11,102	272,681	3,612,290
	Operating Expense									
13	Gas Purchased		$ 326,427							
14	Production Expense		612,911							
15	Transmission Expense		288,034							
16	General Expense		68,335							
17	General Taxes		211,979							
18	Total Operating Expense	Sales		1,518,686	57,407	6,378	3,037	2,126	52,547	1,397,191
19	Distribution Expense	Direct		73,998	10,491	1,292	384	285	876	60,670
20	Commercial Expense	Direct		59,077	5,061	1,673	466	386	1,064	50,427
21	Total									
22	Depreciation and Depletion	6% on Item 11 for 6 months		1,651,761 790,368	72,959 33,714	9,343 4,653	3,887 2,067	2,797 1,500	54,487 25,764	1,508,288 722,670
	Total Operating Expense Including Depreciation and Depletion									
24	Income from Sale of Gas			$ 2,442,129	$ 106,673	$ 13,996	$ 5,954	$ 4,297	$ 80,251	$ 2,230,958
25	Miscel. Operating Income	Income from Gas		1,804,916	193,711	20,096	10,542	6,805	192,430	1,381,332
				9,691	1,081	111	58	39	1,080	7,322
26	Non-Operating Income									
27	Gross Income			$ 1,814,607	$ 194,792	$ 20,207	$ 10,600	$ 6,844	$ 193,510	$ 1,388,654
28	Income Tax	Gross Income		134,156	14,401	1,494	783	506	14,307	102,664
29	Gross Income after allowance for Income Tax			$ 1,680,451	$ 180,391	$ 18,713	$ 9,816	$ 6,338	$ 179,203	$ 1,285,990
30	Per Cent Return on Rate Base for Period			11.2%	28.59%	21.95%	25.76%	23.01%	36.37%	9.37%
31	Sales of Gas in M. Cubic Feet			25,998,122	982,753	109,155	52,773	35,613	899,843	23,917,985
32	Amount required for 8% return per annum on Rate Base			1,200,000	50,476	6,820	3,048	2,204	39,412	1,098,040
33	Gross Income in excess of 8%			480,451	129,915	11,893	6,768	4,134	139,791	187,950
34	Equivalent in Cents per M. Cubic Feet Sold			18.50c	13.22c	10.87c	12.81c	11.60c	15.56c	7.85c
35	Amount required for 10% return per annum on Rate Base			1,500,000	63,095	8,525	3,810	2,755	49,265	1,372,550
36	Gross Income in excess of 10%			180,451	117,296	10,188	6,006	3,583	129,938	86,560**
37	Equivalent in Cents per M. Cubic Feet Sold			6.95c	11.95c	9.34c	11.37c	10.05c	14.46c	36**
38	Rate per M. Cubic Feet required to yield 8%				17.5	20.4	18.5	19.9	14.9	
39	Rate per M. Cubic Feet required to yield 10%				18.8	22.0	20.0	21.2	16.0	

*Non-Operating Income Not Included.
**Minus.

TABLE 10.

UNITED FUEL GAS COMPANY.

RATE BASE, REVENUES, EXPENSES AND OPERATING PROFIT.

Showing per cent earned on the whole natural gas property, and on the property used in the service in the Cities of Ashland, Catlettsburg, Louisa, and Russell, Kentucky, and other divisions, and the volume of sales of gas in M. Cubic Feet for the whole natural gas property and in the cities and divisions aforesaid; and the amount in cents per M. Cubic Feet earned in excess of 8% and 10% return respectively; and the rate per M. Cubic Feet required to yield 8% and 10% return respectively.

Six Months Ended June 30, 1923.

Line No.		Basis Distribution	Item	Total Property	City of Ashland	City of Catletts-burg	City of Louisa	City of Russell	Other Ashland Division	Wholesale and All Other Retail Divisions
1	Apportionment Bases			100%	3.78%	42%	20%	14%	3.46%	92.6%
2	Production		$19,176,000							
3	Transmission		12,002,000							
4	Total Production and Transmission	Sales		$31,178,000	$1,178,500	$131,000	$ 62,400	$ 43,700	$1,078,800	$28,683,600
5	Distribution	Direct		2,822,000	251,300	62,200	24,000	18,900	37,800	2,427,800
6	Total Rate Base			$34,000,000	$1,429,800	$193,200	$ 86,400	$ 62,600	$1,116,600	$31,111,400
	Less Non-Depreciable Property									
7	Real Estate and Rights of Way		$ 554,413							
8	Working Capital		600,000							
9	Going Concern Value		2,500,000							
10	Total Non-Depreciable Property	Sales		3,654,413	138,100	15,400	7,300	5,100	126,500	3,362,013
11	Total Depreciable Property			$30,345,587	$1,291,700	$177,800	$ 79,100	$ 57,500	$ 990,100	$27,749,387
12	Revenues from Sale of Gas	Direct		4,247,045	300,384	34,092	16,496	11,102	272,681	3,612,290
	Operating Expense									
13	Gas Purchased		$ 326,427							
14	Production Expense		612,911							
15	Transmission Expense		298,034							
16	General Expense		69,335							
17	General Taxes		211,979							
18	Total Operating Expense	Sales		$ 1,518,686	57,407	6378	3,037	2,126	52,547	1,397,191
19	Distribution Expense	Direct		73,998	10,491	1,292	384	285	876	60,670
20	Commercial Expense	Direct		59,077	5,061	1,673	406	386	1,064	50,427
21	Total			$ 1,651,761	$ 72,959	$ 9,343	$ 3,887	$ 2,797	$ 54,487	$ 1,508,288
22	Depreciation and Depletion	6% on Item 11 for 6 months		910,368	38,751	5,334	2,373	1,725	29,703	832,482
23	Total Operating Expense Including Depreciation and Depletion			$ 2,562,129	$ 111,710	$ 14,677	$ 6,260	$ 4,522	$ 84,190	$ 2,340,770
24	Income from Sale of Gas			1,684,916	$ 188,674	$ 19,415	$ 10,236	$ 6,580	$ 188,491	$ 1,271,520
25	Miscel. Operating Income	Income from Gas		9,691	1,081	111	58	39	1,080	7,322
26	Non-Operating Income									
27	Gross Income			$ 1,694,607	$ 189,755	$ 19,526	$ 10,294	$ 6,619	$ 189,571	$ 1,278,842
28	Income Tax	Gross Income		134,156	15,022	1,546	815	524	15,007	101,242
29	Gross Income after allowing for Income Tax			$ 1,560,451	$ 174,733	$ 17,980	$ 9,479	$ 6,095	$ 174,564	$ 1,177,600
30	Per Cent Return on Rate Base for Period			9.18%	24.44%	18.61%	21.94%	19.47%	31.27%	7.57%
31	Sales of Gas in M. Cubic Feet			25,998,122	982,753	109,155	52,773	35,613	899,843	23,917,985
32	Amount required for 8% return per annum on Rate Base			1,360,000	57,192	7,728	3,456	2,504	44,664	1,244,456
33	Gross Income in excess of 8%			200,451	117,541	10,252	6,023	3,591	129,900	66,856**
34	Equivalent in Cents per M. Cubic Feet Sold			7.71c	11.96c	9.41c	11.41c	10.07c	14.45c	27c**
35	Amount required for 10% return per annum on Rate Base			1,700,000	71,490	9,660	4,320	3,130	55,830	1,555,570
36	Gross Income in excess of 10%			139,549**	103,243	8,320	5,159	2,965	118,734	337,970**
37	Equivalent in Cents per M. Cubic Feet Sold			54c**	10.51c	7.62c	9.78c	8.32c	13.10c	1.58c**
38	Rate per M. Cubic Feet required to yield 8%				18.7c	21.0c	20.0c	21.2c	16.0c	
39	Rate per M. Cubic Feet required to yield 8%				20.2c	23.9	21.6c	23.0	17.3	

*Non-Operating Income Not Included.
**Minus.

TABLE 11.

UNITED FUEL GAS COMPANY.

Showing the rate base of the whole natural gas property as of December 31, 1922, by appreciating the actual investment of all tangible physical property in use as of December 31, 1915, exclusive of lands, rights of way and operated and unoperated gas leasehold acreage, 33⅓ percent; then adding at cost all physical tangible property investment made thereafter (excluding land, rights of way and gas acreage) from January 1, 1916 to December 31, 1922; then adding construction overhead cost at 15 percent; then deducting 30 percent accrued depreciation; then adding land at cost plus 60 percent appreciation and adding rights of way at cost plus 33⅓ percent appreciation; and then adding operated and unoperated gas leasehold acreage at cost without deduction for depletion, and working capital, going concern value and incomplete construction.

Item			
1	Property in use as of Dec. 31, 1915, less land, rights of way and gas leaseholds		$10,624,500 00
2	Add 33⅓ for appreciation		3,541,500 00
3	Additions exclusive of land, rights of way and gas acreage from January 1, 1916, to December 31, 1922		7,595,279 00
4	Construction overhead costs, 15% of Items 1, 2 and 3		3,264,192 00
			$25,025,471 00
5	Deduct 30% accrued depreciation		7,507,641 00
			$17,517,830 00
6	Land cost	$151,435 00	
	Plus 60% appreciation	90,861 00	
7	Rights of way cost	230,991 00	
	Plus 33⅓% appreciation	76,997 00	
			550,284 00
8	Gas leasehold operated and unoperated acreage at cost without deduction for depletion		$18,068,114 00
9	Working capital		6,525,375 00
10	Going concern value		600,000 00
11	Incomplete construction		2,500,000 00
	Rate base as of December 31, 1922		196,949 00
			$27,890,438 00

TABLE 12.

UNITED FUEL GAS COMPANY.

Showing the rate base of the whole natural gas property as of June 30, 1923, by adopting the Wyer appraisal, exhibit No. 1, as of January 1, 1920, exclusive of the gas leasehold acreage, with certain adjustments and appreciating the same 61.2% based on all commodities index numbers 1923 at 155%, as compared to all commodity index numbers 1906-1915, as 96.2%, and adding thereto additions of property made during the year 1920 reduced to 1923 levels; and additions of property made in 1921, and 1922, increased to 1923 levels, and adding thereto additions of property made in the year 1923 at 1923 levels, plus overhead construction costs and deducting accrued depreciation; adding thereto gas leasehold acreage at cost without deduction for depletion with working capital, going concern value and incomplete construction.

1.	Items 2 to 13 Wyer exhibit No. 1, page 2			$18,127,063.00
	Less loose stock p. 78		$505,491.68	
	Less incomplete construction p. 2		332,800.00	
	Less maps p. 78		232,136.00	
				1,070,428.00
				$17,056,635.00
2.	Less 20% construction overhead costs			2,842,772.00
				$14,213,863.00
3.	Plus 61.2% appreciation to June 30, 1923, based on all commodities index Nos. 1923, 155%, as compared to all commodity index Nos. 1906-15, 96.2%			8,698,884.00
4.	Additions of property year 1920 reduced to 1923 levels, see column in table 6, line 13	Cost $1,395,950	$963,205.00	
	Additions of property year 1921 increased to 1923 levels, see column in table 6, line 14	1,384,800	1,467,888.00	
	Additions of property year 1922 increased to 1923 levels, see column in table 6, line 15	547,190	569,390.00	
	Additions of property year 1923	260,618	260,618.00	3,261,101.00
		$3,588,858		$26,173,848.00
5.	Construction overhead costs at 15%			3,926,077.00
				$30,099,925.00
6.	Deduct 30% accrued depreciation			9,029,977.00
				$21,069,948.00
7.	Add maps 232,136 (p. 78) less 20% overhead			193,447.00
8.	Acreage			6,578,476.00
9.	Working capital			600,000.00
10.	Going Concern Value			2,500,000.00
11.	Incomplete construction			462,000.00
	Rate base as of June 30, 1923			$31,403,871.00

TABLE 13.

UNITED FUEL GAS COMPANY.

Showing the rate base of the whole natural gas property as of June 30, 1923, by taking the gas investment as of said date and which is shown by Table 3 hereof, deducting land at estimated cost and rights of way at cost, then adding back land plus 60% appreciation and rights of way plus 33⅓% appreciation, all without adding construction overhead cost ordeducting accrued depreciation; then adding working capital and going concern value.

1	Investment as per Table 3			$26,887,799
2	Less land at estimated cost	$152,606		
	Less right of way at cost	232,682		
				385,288
				$26,502,511
3	Add back land	152,606		
	Plus 60% appreciation	91,564	$244,170	
4	Add back rights of way	232,682		
	Plus 33⅓ appreciation	77,561	310,243	554,413
5	Working capital			600,000
6	Going Concern Value			2,500,000
	Rate base as of June 30, 1923			$30,156,924

No addition for construction overhead costs.

No deduction for accrued depreciation.

The following tabulation presents a summary of Tables 2 to 13, inclusive:

Table 2	Actual Cost as of Dec. 31, 1922	$26,276,083 00
Table 3	" " " " June 30, 1923	26,887,779 00
Table 8	Reproduction cost calculated and adopted	28,500,000 00
Table 9	" " calculated	30,000,000 00
Table 10	" " assumed	34,000,000 00
Table 11	" " calculated	27,890,438 00
Table 12	" " "	31,403,871 00
Table 13	" " "	30,156,924 00

and shows an average of $29,390,000.00.

AVERAGE COST OF NATURAL GAS PRODUCTION, TRANSMISSION AND DISTRIBUTION

Under the above heading the company introduced exhibit "Wyer No. 3," which purports to set forth the average cost of producing, transmitting and distributing natural gas to the consumers of the United Fuel Gas Co. from the fields of said company to all of its customers. The rate base assumed therein is taken at $60,000,000, and the rate of return at 10 per cent for interest and profit and 6 per cent for sinking fund (depreciation and depletion), to maintain the integrity of the property. It allocates or apportions arbitrarily 72.5% of the whole property to production, 21.5% to transmission and 6% to distribution as against the company's own allocation or apportionment of its properties according to its books, of 56.4% to production, 35.3% to transmission and 8.3% to distribution, as of June 30, 1923. Said exhibit further sets forth operating expenses differing materially in amount to that contained in statements furnished us by the company, and its entire basis of computation is predicated upon an arbitrary assumption of conditions. And in order to place before the Commission comparable facts, Table 14 has been constructed and follows this. For convenience of comparison, so far as possible, the same form as that employed in the Wyer No. 3 exhibit has been adopted and followed, but the computations therein are based upon the facts as furnished by the company, save, of course, the rate bases used. We believe that the results therein set forth reflect the actual operating condition of the company and tend to show that even upon the base value of $34,000,000.00, as established by the Public Service Commission of West Virginia in case No. 1251 on rehearing (supra), and now on appeal to the Supreme Court of West Virginia, on complaint of the City of Huntington, et al., which appeal, as hereinbefore stated, is contested by the company, the cost of production is shown as 9.43c per M cu. ft., cost of transmission 4.86c per M cu. ft., and the cost of distribution 3.85c per M cu. ft., or a total cost of production, transmission and distribution to all points of the company's system of 18.14c per M cu. ft. during the six months

TABLE 14

UNITED FUEL GAS COMPANY.

AVERAGE COST OF NATURAL GAS—PRODUCTION, TRANSMISSION AND DISTRIBUTION.

Year Ended December 31, 1922. Six Months Ended June 30, 1923.

Item No		Year Ended Dec. 31, 1922	Six Months Ended June 30, 1923	
1	Sec. 1 **Fundamental Data**			
2	a—Rate Bases from line 6 of Tables 8, 9, and 10			
3	b—Fair Return on Rate Base after making proper allowances for Expenses, Depreciation and Depletion, and Income Taxes taken at annual rate of 8% over periods in question	$28,500,000	$30,000,000	$34,000,000
4	c—Operating Expense for Period, for Gas Purchased, Production, Transmission, and General (from line 18, Tables 8 to 10)	2,280,000	1,200,000	1,360,000
5	Depreciation and Depletion (line 22 of tables)	3,168,572	1,518,686	1,518,686
6	Federal Income Taxes (line 28 of tables)	1,490,983	790,368	910,368
7		209,829	124,156	134,156
8	Total Operating Expense	$ 4,869,384	$ 2,443,210	$ 2,563,210
9	Distribution Expense	139,423	73,998	73,998
10	Commercial Expense	113,021	59,077	59,077
11	Total Expense	$ 5,121,828	$ 2,576,285	$ 2,696,285
12	d—Volumes of Gas, M. Cubic Feet			
13	Sales, Total	40,867,611	25,000,122	25,000,122

13	Sold in Field	46,967,511 587,152	25,998,122 Est. 350,000	25,998,122 Est. 350,000
14	Difference, Sales outside field	46,280,359	25,648,122	25,648,122
14a	Sold to own consumers	14,872,918	9,269,977	9,269,977
15	* The Cost figures herein determined are the average costs for all gas handled			
16	**Sec. 2 Distribution of Property** (from analysis of Co.'s accounts)			
17	Production	56.1%	56.4%	56.4%
18	Transmission	35.6%	35.3%	35.3%
19	Distribution	8.3%	8.3%	8.3%
		100.0%	100.0%	100.0%
20	**Sec. 3 Expense Distribution**			
21	**Production**			
22	Gas purchased per books	602,494	326,427	326,427
23	Operating	1,283,086	612,911	612,911
24	General (% of Book Total)	80,473	39,105	39,105
25	Property Taxes (% of Book Total)	425,946	119,556	119,556
26	Depreciation and Depletion (% of Total)	836,441	445,768	513,447
27	Federal Income Tax (% of Book Total)	117,714	75,664	75,664
28	Total Production Expense	$ 3,246,154	$ 1,619,431	$ 1,687,110
29	**Transmission**			
30	Operating (per Books)	$ 558,536	$ 298,034	$ 298,034
31	General (% of Book Total)	51,067	24,475	24,475
32	Property Taxes (% of Book Total)	206,840	74,829	74,829
33	Depreciation and Depletion (% of Total)	530,790	279,000	321,360
34	Income Tax (% of Book Total)	74,699	47,357	47,357
35	Total Transmission Expense	$ 1,421,932	$ 723,695	$ 766,055
36	**Distribution**			
37	Operating (per Books)	$ 139,423	$ 73,998	$ 73,998
38	Commercial (per Books)	113,021	59,077	59,077
39	General (% of Book Total)	11,006	5,755	5,755
40	Property Taxes (% of Book Total)	48,224	17,594	17,594
41	Depreciation and Depletion (% of Total)	123,782	65,600	75,561
42	Income Tax (% of Book Total)	17,416	11,135	11,135
43	Total Distribution Expense	$ 453,742	$ 233,159	$ 243,120
44	Total of Production, Transmission and Distribution Expense (Same as Item 10)	$ 5,121,828	$ 2,576,285	$ 2,696,285
45	**Sec. 4 Distribution of Fair Return** (line 3 multiplied by percentages of Items 17, 18, 19)			
46	Production, Fair return for period	$ 1,279,080	$ 676,800	$ 767,040
47	Transmission, Fair Return for period	811,680	423,600	480,080
48	Distribution, Fair Return for period	189,240	99,600	112,880
49	Total (as per Item 9)	$ 2,280,000	$ 1,200,000	$ 1,360,000
50	**Sec. 5 Total Charges for Periods in Question**			
51	Total Production Charges (Item 28 plus Item 46)	$ 4,525,234	$ 2,296,231	$ 2,454,150
52	Total Transmission Charges (Item 35 plus Item 47)	2,233,612	1,147,295	1,246,135
53	Total Distribution Charges (Item 43 plus Item 48)	642,982	332,759	356,000
54	Totals	$ 7,401,828	$ 3,776,285	$ 4,056,285
55	**Costs, per M Cubic Feet** (Cost divided by sales)			
56	Sec. 6 **Production** (Item 51 divided by Item 12)	9.68c	8.83c	9.43
57	Sec. 7 **Transmission** (Item 52 divided by Item 14)	4.83c	4.47c	4.86c
58	Cost Production and Transmission	14.51c	13.30c	14.29c
59	Sec. 8 **Distribution** (Item 53 divided by Item 14a)	4.32c	3.59c	3.85c
60	Total Cost, Production, Transmission and Distribution	18.84c	16.89c	18.14c

period ended June 30, 1923. In other words, it is shown therein that the cost of producing and transmitting gas on the average to all the customers of the company, including the cities of Catlettsburg, Ashland, Louisa and Russell, as of June 30, 1923, was 14.29c per M cu. ft.; and this is without giving any consideration to the fair value per M cu. ft. of the gasoline extraction.

GAS PURCHASED

Table 15 following, sets forth the gas purchased for the year ended December 31, 1922, and shows that the average cost thereof was 5.37c per M cu. ft. Particulars of gas purchased for the six months ended June 30, 1923, are not shown because we inadvertently omitted to obtain the same from the company.

Hightower, Exhibit No. 1 in the instant case, gives the average price of gas purchased in 1921 as 4.68c per M cu. ft., and further states, "averaged price paid for gas purchased in contracts made since December 31, 1921, 7.97c per M cu. ft." It is probably true that recent contracts for the purchase of gas may show said cost, but it is submitted that the entire purchases of gas during each calendar year or calendar period in all contracts forms the basis of comparison and not the price to be paid under contracts of recent date. However, that may be, it is assumed that the company exercises its best judgment in making these contracts, wherefore, the prices paid are properly includable in the operating expenses. However, since the cost of the service to the consumer, and hence "the value of the service," is determined by including all proper operating expenses, a sum sufficient to maintain the integrity of the property and the fair return, the question of increasing costs of gas purchased is not momentous, for, as the cost of operation, and the price paid for gas purchased forms a part thereof, increases, the cost of the service to the consumer increases correspondingly, and upon a proper showing thereof this Commission should and doubtless would grant prompt relief.

TABLE 15.

UNITED FUEL GAS COMPANY.

Details of Gas Purchased for the Year Ended December 31, 1922.

Particulars	M. Cu. Ft.	Rate Per M. Cu. Ft. in Cents	Amount
Anderson Oil and Gas Company	84,984	5 00	$ 4,199 20
Belvard Oil and Gas Company	235,693	5 00	11,784 65
Clendenin Gasoline Station	57,138	4 00	2,285 52
Carter Oil Company	104,754	3 28	3,439 73
Cabin Creek Gas Company	1,316,667	3 50	46,083 38
Central Wayne Oil and Gas Company	97,855	5 00	4,892 75
Charleston & Clendenin Oil & Gas Co	118,632	6 24	7,403 59
Columbian Carbon Company	27,092	4 00	1,083 68
Cassis & Namy	27,417	5 00	1,370 85
East Lynn Oil and Gas Company	57,583	5 00	2,879 15
Empire Petroleum Company	897,238	4 89	43,898 35
Elkins, Richard	893,583	7 55	67,521 56
Frazier, J. E.	445,258	5 00	22,262 90
Guarnal Oil Company	352,298	3 00	10,568 94
Byrne, W. E. R.	32,257	2 25	725 83
J. O. Jackson Company	295,144	3 00	8,854 32
Koota & Osborne No. 110	2,641	5 00	132 05
Kanawha City Oil and Gas Company	723,829	8 00	57,906 32
Latty Oil and Gas Company	201,946	4 52	9,122 46
Meteor Carbon Company	167,093	5 00	8,354 65
John Murphy	41,333	4 82	1,992 26
McCormick, Millson	45,582	6 00	2,734 92
McCray, D. D.	4,101	4 07	167 00
Ohio Fuel Oil Company	937,685	5 32	49,889 83
O'Connell Oil Company No. 4	143,467	5 00	7,173 42
O'Connell Oil Company No. 91	261,922	5 00	13,096 14
Pilgrim Oil Company	79,202	6 00	4,752 12
Priddle Oil and Gas Company	77,537	5 00	3,876 85
Rogers, A. M.	4,981	5 00	249 05
Shelton Gasoline Company	147,448	5 00	7,372 40
Silman, Peter	75,735	4 30	3,258 51
Stonewall Oil and Gas Company	68,250	5 00	3,412 50
Sahley and Skaff	142,715	5 00	7,135 75
South Penn Oil Company	527,116	3 31	17,447 56
Transylvania Oil and Gas Company	495,950	6 28	31,130 55
Turley, C. J.	89,052	4 00	3,562 08
Union Gas and Oil Company	464,295	6 36	29,546 75
Welsh and Loman	7,746	6 00	464 76
Williamson and Carnes	303,768	4 81	14,609 09
Weideman, Carl J.	80,827	6 00	4,849 62
Westova Oil and Gas Company	200,183	7 00	14,012 81
Waldron, M. H.	104,126	3 00	3,123 78
Falling Rock Cannell Coal Company	619,238	8 50	52,635 26
Blackshere Oil and Gas Company	160,441	7 00	11,230 87
Total	11,229,802	5 87	$602,493 76

HIGHTOWER EXHIBIT No. 5

Filed herein is a statement showing compressor station investment and operating expense for the years 1914 to 1922, both inclusive. It has not thus far been shown what purpose said exhibit was to serve, but if to show that the increase in investment and operating expense is in any wise due to decreasing rock pressure and, therefore, affects the retail consumers of the company, then it may be proper to state that testimony developed in case No. 1251, on rehearing before the Public Service Commission of West Virginia (supra), indicated that the company on May 1, 1920, agreed with the Hope Natural Gas Company, among others, to enlarge its principal compressor station, Cobb Station, by installing additional units of approximately 2700 H. P., and to enlarge its auxiliary compressor station, known as Buff Lick Station, by the addition of units amounting to 485 H. P.; to complete by January 1, 1922, at least 25 additional wells in search of gas and to connect the same with the pipe line system. (See record page 291.) That by contract with Pittsburgh & West Virginia Co., dated August 7, 1922, the company is to enlarge its principal compressor station used in the delivery of gas sold under agreement with that company, Cobb Station, by adding additional units amounting to at least 900 H. P., to be completed December 31, 1922; to complete the auxiliary station at Mammouth of at least 750 H. P. to be completed in the same time and to complete by December 31, 1922, at least 25 additional wells connecting them with the system and to re-arrange the field lines to bring to Cobb Station a larger quantity of gas for delivery. (See record page 292.) The companies named are customers of the company who purchase gas of it for resale. Nevertheless, the increased investment as well as the increased operating expense of these compressor stations is included in the total cost of production and transmission of gas, and to that extent affects all the retail customers of the company.

Tables following show:

Table 16—Gas investment acreage as of December 31, 1921, December 31, 1922, June 30, 1923.

Table 17—Gas investment in Kentucky distribution system as of December 31, 1922.

Table 18—Gas investment in Kentucky distribution system as of June 30, 1923.

Table 19—Gas sales in M cubic feet for years 1921 and 1922, and first 6 months of 1923.

Table 20—Operating revenue and distribution and commercial expense for years 1921 and 1922 and first 6 months of 1923.

Table 21—Bonded indebtedness and capital stock.

Acknowledgement is made of the co-operation of and assistance rendered by the attorneys representing the Cities of Catlettsburg, Ashland, Louisa and Russell, Ky.

Respectfully submitted,

W. H. WEISS,
Engineer,

145 W. Sixth Street,
Cincinnati, Ohio.

TABLE 16

UNITED FUEL GAS COMPANY.

Gas Investment Acreage as of December 31, 1921.

	Acreage	Money
Kentucky		
Operated	4,479 10	$ 4,343 51
Unoperated	79,015 60	83,857 12
West Virginia		
Operated	68,134 50	2,041,202 37
Unoperated	634,075 79	4,639,191 95
Ohio		
Unoperated	14	2,986 08
Total 1921	785,765 13	$6,721,581 03

Acreage as of December 31, 1922.

Kentucky		
Operated	4,390 50	$ 3,891 91
Unoperated	92,903 35	36,183 65
West Virginia		
Operated	59,744 16	1,867,074 42
Unoperated	630,846 70	4,615,201 21
Ohio		
Unoperated	14	3,023 89
Total 1922	787,884 85	$6,525,375 08

Acreage as of June 30, 1923

Kentucky		
Operated	4,340 50	$ 3,841 91
Unoperated	93,458 35	36,097 27
West Virginia		
Operated	61,104 66	1,918,995 28
Unoperated	627,151 04	4,616,512 49
Ohio		
Unoperated	14	3,028 56
Total six months 1923	786,054 69	$6,578,475 51

	Year 1921	Year 1922	6 Mos. 1923
Land Rentals	$664,533 27	$641,135 25	$309,039 96
Well Royalties	171,210 25	175,188 58	96,004 37

TABLE 17

UNITED FUEL GAS COMPANY.

Gas Investment in Kentucky Distribution System as of December 31, 1922.

	Ashland	Catlettsburg	Louisa	Russell	Other Ashland, Ky. Division
Pipe	$ 61,532.44	$11,646.99	$ 4,865.94	$ 3,606.53	$ 7,982.34
Rights of Way	200.00	100.00	11.00	10.00	61.00
Rights of Way Expense	66.55	149.80	105.25		82.00
Buildings	1,033.95	2,244.81	483.22	79.29	441.85
Fittings	4,877.70	1,760.09	755.94	492.03	764.09
Gate Valves & Other Material	1,775.10	629.47	255.61	108.76	755.03
Labor, Teaming and Frt.	35,416.33	9,406.48	3,580.67	3,570.36	6,949.82
Regulators	1,822.55	556.08	458.72	150.15	867.91
Office Furniture	2,605.86	486.74	30.95		
Large Tools	682.15	262.55	220.72	120.00	
Meters	46,691.76	12,504.47	4,535.94	3,158.33	5,291.51
Measuring Stations	4,091.37		151.65		
Service Lines	25,706.07	6,821.79	2,947.86	2,865.54	3,539.45
Horses, Wagons & Autos	943.02				
Adjustments	168.72	16.37**		20.09**	128.30**
Total	$187,813.37	$46,352.80	$18,402.57	$14,138.90	$26,606.70

**Denotes Deduction.

TABLE 18.

UNITED FUEL GAS COMPANY.

Gas Investment in Kentucky Distribution System as of June 30, 1923.

	Ashland	Catletts-burg	Louisa	Russell	Other Ashland Ky. Division
Pipe	$ 63,301.01	$11,648.18	$ 4,861.15	$ 3,606.53	$ 8,887.28
Rights of Way	200.00	100.00	11.00	10.00	61.00
Rights of Way Expense	66.55	149.80	105.25		82.00
Buildings	1,033.95	2,244.81	483.22	79.29	441.85
Fittings	5,001.65	1,761.45	743.48	492.03	792.55
Gas Valves & Other Material	1,858.33	661.47	255.61	106.76	755.03
Labor, Teaming & Frt	36,247.04	9,431.49	3,580.67	3,570.36	7,433.97
Regulators	1,881.93	556.06	458.72	150.15	867.91
Office Furniture	2,605.86	486.74	30.95		
Large Tools	682.15	262.55	220.72	120.00	
Meters	46,113.07	13,224.74	4,340.30	3,281.58	5,660.39
Measuring Stations	4,091.37		151.65		
Service Lines	27,408.82	6,830.21	2,988.20	2,921.74	3,813.16
Horses, Wagons & Autos	944.02				
Adjustment	779.31	27.91		23.86	**124.46
Total	$192,214.06	$47,385.41	$18,230.92	$14,362.30	$28,670.68

**Denotes Deduction

TABLE 19

UNITED FUEL GAS COMPANY.

Sales in M. Cubic Feet for Years 1921 and 1922, and First 6 Months of 1923.

	1921		1922		6 Months June 30, 1923	
	Domestic	Industrial	Domestic	Industrial	Domestic	Industrial
Ashland, Ky.	586,528	446,887	633,134	582,115	457,082	525,671
Catlettsburg, Ky.	136,250	15,450	142,805	11,726	100,443	8,712
Louisa, Ky.	66,533	13,218	73,874	11,730	47,586	5,187
Russell, Ky.	49,844		52,463		35,613	
Other Ashland, Ky. Division	104,002	428,858	128,734	936,752	88,540	811,303
Ironton, Ohio	383,532	113,905	413,651	127,816	269,535	68,792
Other Ironton, Ohio Division	213,062	670,658	233,718	1371,892	174,343	317,908

TABLE 20

UNITED FUEL GAS COMPANY.

Operating Revenue and Distribution and Commercial Expense for Years 1921 and 1922 and First Six (6) Months of 1923.

	Year 1921	Year 1922	6 Months Ending June 30, 1923
Revenue			
Ashland	$343,257 37	$377,610 46	$300,384 00
Catlettsburg	53,341 60	49,524 15	34,092 35
Louisa	28,109 45	27,304 26	16,495 97
Russell	17,641 70	16,782 93	11,102 26
Other Ashland Division	163,075 86	323,828 91	272,680 90
Ironton, Ohio	170,029 67	184,291 63	128,425 89
Other Ironton Division	289,340 75	507,873 43	166,481 62
Distribution Expense			
Ashland	$ 12,138 39	$ 15,509 52	$ 10,490 93
Catlettsburg	2,233 74	4,997 27	1,292 40
Louisa	1,800 44	842 21	383 64
Russell	1,321 89	612 92	284 55
Other Ashland Division	3,426 88	1,744 36	875 59
Ironton	13,025 92	12,358 01	8,746 87
Other Ironton Division	6,513 49	5,490 66	6,380 25
Commercial Expense			
Ashland	$ 9,359 42	$ 9,724 60	$ 5,061 19
Catlettsburg	3,164 96	3,137 17	1,673 41
Louisa	874 78	971 01	466 24
Russell	642 26	706 66	345 81
Other Ashland Division	1,665 01	2,011 12	1,064 09
Ironton	10,067 95	10,024 95	4,962 47
Other Ironton Division	7,107 22	7,152 00	3,777 41

TABLE 21

UNITED FUEL GAS COMPANY

Bonded Indebtedness and Capital Stock

	December 30, 1921	December 31, 1922	June 30, 1923
Bonds Outstanding	$ 2,000,000 00	$ 1,883,000 00	None
Rate of Interest	7½%	7½%	
Discount on Bonds	153,092 57	137,186 85	
Bonds Outstanding	$10,447,000 00	$ 8,119,000 00	$ 8,060,000 00
Rate of Interest	6%	6%	6%
Discount on Bonds	193,782 85	193,782 85	193,782 85

Capital Stock

Issued and Outstanding	$30,000,000 00	$30,000,000 00	$30,000,000 00

Cash Dividends

Declared	Paid				
11-30-20	2-10-21	4%	$1,200,000 00		
4-20-21	5-12-21	4%	1,200,000 00		
6-21-21	8-12-21	4%	1,200,000 00		
10-19-21	11-12-21	4%	1,200,000 00		
1- 8-22	2-11-22	4%		$1,200,000 00	
4-25-22	5- 9-22	2½%		750,000 00	
6-22-22	8- 5-22	2½%		750,000 00	
10-18-22	11- 5-22	½ of 1%		150,000 00	
1-22-23	2- 3-23	1%			$300,000 00
4-11-23	5- 5-23	1½%			450,000 00
6-19-23	8- 6-23	1½%			450,000 00

BEFORE THE

RAILROAD COMMISSION

OF

THE COMMONWEALTH OF KENTUCKY

WARFIELD NATURAL GAS COMPANY

vs.

CITY OF CATLETTSBURG, ET AL.

UNITED FUEL GAS COMPANY

vs.

CITY OF CATLETTSBURG, ET AL.

Docket No. 204

APPENDIX 1

OF

REPORT

On Natural Gas Rates on Behalf of the Cities of Catlettsburg, Ashland, Louisa and Russell, Kentucky

W. H. WEISS
Engineer

APPENDIX 1

UNITED FUEL GAS COMPANY

DETERMINATION OF RELATIVE PRICES BY MEANS OF INDEX NUMBERS OF U. S. BUREAU OF LABOR STATISTICS

For the comparison of values at different periods, and for translating the values of one period into terms of another, the best compilation of standards and relative figures is probably that of the U. S. Bureau of Labor Statistics. These "Index Numbers," covering nine groups of commodities during the years from 1890 to the present time, are given in Bulletin No. 335 and subsequent publications, and repeated in Part in Table 4, which forms a part hereof.

"Price Index Numbers" are **relative average prices**, that is, relative numbers in which average prices for one period, as a year, are taken as the base, or 100%, on which average prices for other periods are computed as percentages. The Bureau of Labor Statistics uses the average prices of the year 1913 as a base.

If the price of a quantity of goods of a certain class in any year be known, its probable price in any other year may be estimated by multiplying by the ratio of the Index Numbers of that class of goods for the two years. This is termed "translating" the values of one year into those of another.

Since the fluctuations of any given class of commodities are generally different from those of every other class, or of "All Commodities" taken together, it is necessary in making comparisons to use that group of Index Numbers which mostly nearly applies to the case. In the present instance, involving large quantities of steel pipe, machinery, etc., that would evidently be the group "Metals and Metal Products," and the Index Numbers for this are given in Table 4. In order that the divergencies of this from the average may be observed, and given necessary weight, the group "All Commodities" is also included.

TABLE 4

Secular Trends Computed from Index Nos. of U. S. Bureau of Labor Statistics. Based on Period 1896 to 1914, Inclusive. Index Nos. for 1913 taken as 100.

	All Commodities		Metals and Metal Products		Index Nos Compared		Secular Trends	
Year	Index Nos	Secular Trend	Index Nos	Secular Trend	All Com larger	Met. & M. P. larger	All Com. larger	Met. & M. P. larger
a	b	c	d	e	f	g	h	i
1856	67	69 5	78	89 3		11		19 8
1857	67	71 3	72	89 9		5		18 8
1858	70	72 8	72	90 5		2		17 7
1859	75	74 5	110	91 1		35		16 6
1900	81	76 2	108	91 7		27		15 5
1901	79	78 0	103	92 3		24		14 3
1902	84	79 8	100	92 9		16		13 1
1903	86	81 6	99	93 5		13		11 9
1904	86	83 5	88	94 1		2		10 6
1905	86	85 4	58	94 7		12		9 3
1906	89	87 4	113	95 4		24		8 0
1907	94	89 4	121	96 0		27		6 6
1908	90	91 5	95	96 6		5		5 1
1909	97	93 6	93	97 2	4			3 6
1910	101	95 8	94	97 9	7			2 1
1911	93	98 0	89	98 5	4			5
1912	99	100 3	99	99 2				
1913	100	102 7	100	99 9			1 1	
1914	98	105 0	85	100 5			2 8	
1915	101	107 4	99	101 2	13		4 5	
1916	127	109 9	162	101 8	2	35	6 2	
1917	177	112 5	231	102 6		54	8 0	
1918	184	115 1	187	103 2	7		9 9	
1919	206	117 8	162	103 9	44		11 9	
1920	226	120 5	192	104 6	34		13 9	
1921	147	123 3	129	105 3	18		15 9	
1922	149	126 2	122	106 0	17		18 0	
1923	x155	129 1	x145	106 7	x10		20 2	
1924		132 1		107 4			22 4	
1925		135 1		108 1			24 7	
1926		138 3		108 8			27 0	
1927		141 5		109 5			29 5	
1928		144 8		110 3			32 0	
							34 5	

x8 months including August

The Index Numbers for these two groups are given for each year from 1896 to 1922, in columns **b** and **d** of Table 4. The averages for the first eight months of 1923 are also given.

To aid in visualizing and comparing the differences in prices of these two groups of commodities during the different years, the values shown in these two columns have also been plotted graphically in Table 5, "All Commodities" being shown in the **solid** heavy line and "Metals" in the broken **heavy** one. The greatest differences between the two are seen to have occurred in the years from 1899 to 1907, which was prior to the history of the present case. Since 1908 they have differed less.

This diagram employs the method of plotting which has been used by the U. S. Bureau of Labor Statistics in all its diagrams, in which the values of the Index Numbers are shown on a "logarithmic" scale, giving to equal values progressively smaller spaces as the values get larger. Thus, in Table 5, it is seen that the space between 220 and 230, at the top of the diagram, is much smaller than that between 70 and 80, at the bottom, although the numerical difference is in both cases 10.

That this has many advantages is evidenced by its universal use by the Bureau of Labor Statistics. One of these advantages lies in the condensation of large values so as to keep the diagram within reasonable limits of size. Other and greater advantages will be mentioned in a later paragraph.

This diagram shows the gradual rise of prices from the minimum in 1897 to 1914, and the violent rise occasioned by the war. The up-and-down variations of "Metals" were more marked than those of "All Commodities," but both showed a tendency to gradual increase. It seems likely that, if the war had not intervened, both would have risen gradually (though with some fluctuations), until the present time, so that, even without the war influence, prices would have been considerably higher today than they were in 1915. To determine this, the "Secular Trend" has been computed for each of these groups for the period from 1896 to 1914, inclusive.

TABLE 5

UNITED FUEL GAS CO.

TREND CHART
OF "ALL COMMODITIES"
AND OF "METALS AND METAL PRODUCTS"

PREPARED FROM INDEX NUMBERS
OF THE U. S. BUREAU OF LABOR STATISTICS,
BULLETIN NO. 335

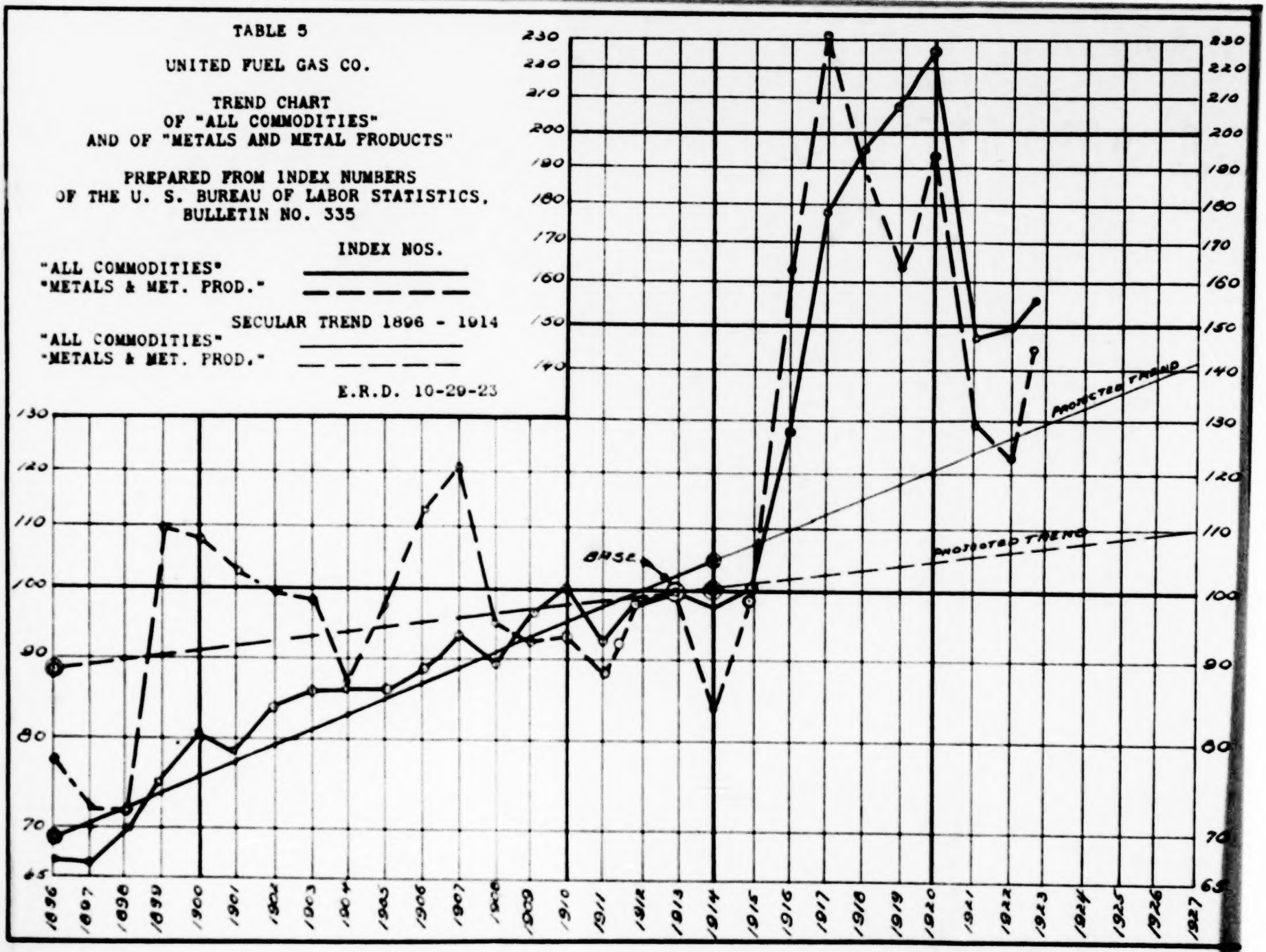
INDEX NOS.

"ALL COMMODITIES" ———————
"METALS & MET. PROD." — — — — —

SECULAR TREND 1896 - 1914

"ALL COMMODITIES" ———————
"METALS & MET. PROD." — — — — —

E.R.D. 10-29-23



The "Secular Trend" of a **fluctuating list** of prices or Index Numbers, such as those in Table 4, columns **b** and **d**, is that **smoothly varying** set of similar numbers which in average amount and **regular rate of increase** most nearly represent the fluctuating values.

By well defined methods, the Secular Trend of any such a fluctuating list may be computed with great exactness, and may be plotted in a diagram. The line in such a diagram representing the Secular Trend will be found to pursue an average path among the points of the irregular "curve" of prices, and will indicate, as nearly as anything can, the probable future trend, whether up or down, and its rate of rise or fall.

This matter of Secular Trend has been considered by the Bureau of Labor Statistics in their Bulletin No. 284, wherein they compute the Secular Trends of various groups of commodities and show them in diagrams. They herein use, and therefore sanction, the period from 1896 to 1914 inclusive as a base period for determining the trend; as evidently, in their judgment, the influences determining prices were sufficiently uniform during this period to warrant such use.

As already mentioned, the Index Numbers on their diagrams are plotted to a logarithmic scale, and on page 97 of Bulletin No. 284 it is pointed out that **on these diagrams** the Secular Trends may be **represented by straight lines** drawn at proper slopes.

Now one great advantage of the logarithmic style of diagram is that trends having a geometrical ratio of increase (like compound interest) show on it as **straight** lines, whereas on the ordinary "arithmetical" style of diagram (having uniform spaces for equal numerical differences in Index Numbers), such geometrical ratios of increase would have to be represented by curves of varying curvature, and would be hard to determine and plot. Moreover, a straight-line trend on logarithmic paper **must** represent a geometrical rate of increase.

The Bureau, therefore, indicates that in its opinion the geometrical ratio of increase best represents the facts,

as they have determined them from exhaustive studies of prices extending over many years and covering hundreds of commodities. This is confirmed by the tabulation of the Secular Trend for "All Commodities," at the bottom of page 97 of their Bulletin 284. In this tabulation they specifically mention the annual **geometric** increment of the secular trend which they have determined.

It may therefore be taken on authority that such Secular Trends as these, covering average prices in the period since 1896, should be based on geometrical rates of increase (like compound interest) and not on arithmetical rates (like simple interest). This method is used in the following work, where secular trends have to be computed.

In Bulletin No. 284, and the table at the bottom of page 97 of that Bulletin, the Bureau has used price Index numbers based, not on the average prices of the year 1913, as is done in later bulletins, but on the average prices of the decade 1890 to 1899, inclusive. This is done for comparison of results with other compilations of Index Numbers which must, from their nature, have that basis. This prevents using the figures in the table on page 97, referred to, **directly**, but the translation of those figures to the 1913 basis is very simple. The ratio of Index Numbers on 1890-1899 basis to those on 1913 basis is found, by division, to be 1.370, so that it is only necessary to divide the values given in this table, for points on the Secular Trend line, by 1.370 to obtain them on the 1913 basis.

This being done, we find that the point on the Secular Trend line for "All Commodities" for 1896 is

$$\frac{95.3 \quad - \quad 69.5}{1.370}$$

And for 1914 the point is

$$\frac{144.0 \quad - \quad 105.0}{1.370}$$

The Geometric Mean for 1896-1914 becomes

$$\frac{117.1 \quad - \quad 85.5}{1.370}$$

The Annual Geometric Increment of 1.0232 remains unchanged.

These values for the Secular trend line for "All Commodities," taken from the figures furnished by the U. S. Bureau of Labor Statistics, have been used in computing column **c** of the accompanying Table 4. The Bureau has not given figures for Secular Trend of "Metals and Metal Products," so these have been computed by the method of "Least Spuares" (the same as used by the Bureau), and the results appear in column **e** of Table 4. Since the law of these Secular Trends is now known from the computations, they may be extended as far as desired into the future, and they have been so extended in Table 4 to include the year 1928.

These Trends are also drawn on the diagram, Table 5, as lighter solid and broken lines for "All Commodities" and "Metals" respectively, and projected to the right as far as 1927.

Unforseen events may deviate the course of prices greatly from any projected trend lines, as the war did in 1915, but if the course of events becomes and remains reasonably normal, it seems probable that prices will oscillate above and below, and tend to follow their projected trends.

From Table 4, or from the diagram Table 5, it appears that prior to 1909 "Metals and Metal Products" were consistently higher than "All Commodities." This was true both of the actual Index Numbers (representing actual averaged prices) and of the Secular Trends (representing the general average trend of those prices through the period in question).

The actual prices, represented by the Index Numbers, vary, of course, irregularly, while the Trends, representing general averages, are necessarily regular in their differences, but these differences are **in the same direction.**

The Secular Trend line for "Metals" is above that for "All Commodities," and the Index Number "curve" for "Metals" is above that for "All Commodities."

In Table 4, the differences between the two are shown in columns (f) to (i). It is seen that from 1896 to 1908 inclusive both Index Numbers and Secular Trend figures for "Metals" were larger than for "All Commodities." The amounts by which they were larger were, however, continually decreasing. "All Commodities" were increasing in price faster than "Metals," and overtaking them. The Index Numbers for "All Commodities" (representing averaged actual prices) became larger than those for "Metals" in 1909 and did not go below them again during peace conditions. The Secular Trend figures for "All Commodities" became larger than those for "Metals" in 1912.

The importance of this tendency in "All Commodities" to rise ultimately above "Metals" is an important fact to keep in mind. If the war had not come on and violently upset all relations of values, it is undoubtedly a fact that "All Commodities" would by this time have gone to a point considerably above "Metals," and probably remained there.

While in 1912 and 1913 "Metals" and "All Commodities" show the same Index Numbers (99 in 1912 and 100 in 1913), "Metals" had dropped far below again in 1914 (to 85, while "All Commodities" were 98). Then came the effect of the work undertaken in making munitions for the Allies, which brought "Metals" up nearly to "All Commodities" in 1915, and shot it far above 1916 and 1917.

But in 1918, while still high, "Metals" had begun to drop, had, in fact dropped 7 points **below** "All Commodities," and remained below by from 44 to 10 points each year until the present. While the first eight months of 1923 show a rise for both "Metals" and "All Commodities," and rather larger for the former than the latter, it may be doubted if this will be maintained under business conditions as they are now tending. It would therefore appear that since the removal of war conditions in 1918, both "All Commodities" and "Metals" have been moving from their war peaks toward more normal figures. In this movement, "Metals" is remaining **below** "All Commodities," as shown in column

(f) for 1918 and after, and the amount it is below is comparable to the difference in the trends, as shown in column (i).

The indications are that these normal figures toward which the prices are tending are the **same Secular Trend figures about which they oscillated before the war.** Due to the upward tendencies which these Trends then exhibited, they would now be considerably above their pre-war values, and still slowly rising; and **the Trend values for "All Commodities" would be considerably above those for "Metals."**

We may, therefore, expect that prices for "Metals and Metal Products" will remain considerably lower than those for "All Commodities," as represented by the Index Numbers.

At the present time, the effects of the war-inflation are still not entirely removed, and probably will not be for several years. If prices reach the Secular Trend values by 1927 (indicating that the war effects were then entirely removed), that would mean that the Index Numbers would then be at the Secular Trend values, namely 141.5 for "All Commodities" and 109.5 for "Metals" or at 41½% and 9½% respectively above 1913 prices, which were taken as "Base" or 100%.

If this be so, then **these prices will move from their present values of 155 and 145, respectively, to 141½ and 109½ at the end of 1927.** While this movement will not be regular, but, as always, marked by irregular fluctuations, which may be either up or down according to changing business conditions, we may take the **average** of prices during the next four years as the average of these present and ending figures. For "All Commodities" this is the average of 155 and 141½, or 148½, for "Metals" it is the average of 145 and 109½, or 127½; or, **in round figures, the average prices during the next four years will be,** as compared with 1913 prices taken as "base," **about 150% for "All Commodities" and 130% for "Metals and Metal Products."**

What may happen after that is a matter of considerable speculation, but presumably, unless through un-

forseen causes, they would follow along up the Trend Curves.

Due to the character of the properties in question, it would seem reasonable that "Metals and Metal Products" would much more nearly represent them than would "All Commodities," or at most a combination of the two made up of a large proportion of "Metals" and a small one of "All Commodities." However, as it appears that the "All Commodities" basis will give a higher value as a Rate Base, than will "Metals," and as there is no desire to take any advantage which might be open to question, the "All Commodities" basis has been substantially employed.

TABLE 5 (a)

UNITED FUEL GAS COMPANY.

Purchasing Power of the Dollar, 1913, to June 30, 1923, as computed by the U. S. Bureau of Labor Statistics, taken from September number of Labor Review.

Yearly changes in buying power of the dollar in purchase of specified groups of commodities from January 1, 1913, to June 30, 1923.

Base 1913 equals 100.)

Year	All Commodities	Percent of Increase or Decrease in price as compared with 1913	Metals and Metal Products	Percent of Increase or Decrease in price as compared with 1913
1913	100	0	100	0
1914	102	d 2	118	d 18
1915	99 4	d 5	101 7	d 1 5
1916	80	i 25	62 4	i 60 5
1917	57	i 75 5	44 2	i 126 5
1918	51 5	i 94 5	53 4	i 87 5
1919	48 5	i 106 5	61 8	i 61 5
1920	44 4	i 125 5	52 7	i 90 0
1921	68 2	i 46 5	78	i 28 3
1922	67 2	i 49	82 4	i 21 5
1923	62	i 61 2	68 8	i 45 5
6 Mos.				

(d) Denotes decrease.
(i) Denotes increase.

Exhibit E—13.

VALUATION OF

NATURAL GAS PROPERTY

OF UNITED FUEL GAS COMPANY

IN WEST VIRGINIA, KENTUCKY AND OHIO

AS OF

January 1, 1920

By SAMUEL S. WYER
Consulting Engineer
Hartman Building, Columbus, Ohio

SAMUEL S. WYER
CONSULTING ENGINEER
Hartman Building
COLUMBUS, OHIO

WYER No. 1.

August 15, 1923

United Fuel Gas Company,
Charleston, West Virginia.

Gentlemen:

After making a careful and detailed investigation of your natural gas property in West Virginia, Kentucky and Ohio, as listed herein, it is my judgment that a conservative "then present fair value" of this property, as of January 1, 1920, on the basis of excluding all abnormal war-time prices, was $55,199,829. The unit prices used on material and labor are an average of the prices prevailing for approximately ten years prior to September 1, 1915. The quantities, to which the various unit prices were applied, were obtained direct from your office records.

The Company has been considered as one operating entity. The valuation has been made without any knowledge of book values or security issues. No costs for cutting through pavements in laying mains are included herein.

The general valuation summary is shown on next page. The general discussion of the basis of the various unit prices used is given in Part I.

Respectfully submitted,

SAMUEL S. WYER.

SSW F

SUMMARY OF VALUATION OF NATURAL GAS PROPERTY

As of January 1, 1920

1—Natural Leases—		
Operated: 57,506 acres @ $300	$17,251,800	
Reserve: 148,028 acres @ 100	14,802,800	
2—Wells	4,926,550	
3—Well drips	171,113	
4—Well lines	417,896	
5—Field lines	1,491,282	
6—Field measuring stations	64,490	
7—Compressing stations	1,627,925	
8—Field headquarters	199,500	
9—Main lines	5,920,068	
10—Main line measuring stations	38,350	
11—Main line headquarters	113,000	
12—Distributing plants	1,959,862	
13—General headquarters	864,227	
14—Incomplete construction work	332,800	
	$50,181,663	
15—Present value of plant		$50,181,663
16—Going value, 10% of plant value		5,018,166
17—Present value natural gas property		$55,199,829

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PART I.

BASIS OF UNIT PRICES USED

Sec. 1—Time Basis

The valuation is made as of January 1, 1920.

Sec. 2—Valuation Limited to Natural Gas Properties

The valuation is limited to natural gas property used and useful in rendering public utility service, and excludes all property in connection with the production of oil or gasoline.

Sec. 3—Basis for Quantities

The Company's records of lengths of various sizes of pipe and quantities of the various parts entering into the plant, were used as the basis for all quantities.

Sec. 4—Definition of Lease

A natural gas lease is a contract for a consideration, establishing a vested right to enter upon a definitely described parcel of land, for a determined period, to prospect for, reduce to possession, remove and market natural gas. The vested right is the crux of the whole matter, and it is immaterial whether the instrument creating it is called a "lease", "contract," "grant," or "deed of conveyance."

Sec. 5—Leasehold Value

The cost of acquiring and maintaining the acreage necessary to render continuous natural gas service represents a substantial part of the cost of natural gas service to the consumer. This is predicated on the fundamental property idea that "the right of the citizen by means of his ownership of or his mining leases on land to draw gas from beneath its surface is property and sometimes valuable property." That is, the right to drill at some future time a gas well on a certain parcel of land is property in the same sense that the land itself is property.

Sec. 6—Classification of Natural Gas Leases

The natural gas leases are divided into operated and unoperated groups. The term reserve or undeveloped may also be applied to the unoperated acreage.

The classification used in this valuation is the same as that used by the Company, namely, all tracts under approximately 100 acres in area with producing wells thereon are considered operated acreage, and in the case of tracts having much over 100 acres in area, approximately 100 acres of such tract is assigned as operated acreage for each producing well thereon, thus giving an average operated acreage of 86 acres per well for the 663 wells located on the 56,874 acres classed as operated natural gas land. All undrilled acreage is classed as reserve. In many cases small or irregular shaped tracts adjacent or contiguous to producing wells are just as important from a continuous service viewpoint as the producing tracts themselves. This is because it is necessary to control undrilled acreage in order to protect existing wells. This is especially important in West Virginia where the many small and irregular shaped tracts present unusual opportunities for competitive drainage of gas territory.

Sec. 7—Unit Prices for Natural Gas Leases

The unit prices used for natural gas leases are the present fair property values of these leases, and were determined in accordance with the "Principles of Natural Gas Leasehold Valuation," as outlined by Samuel S. Wyer in a paper presented at the Arizona Meeting, September, 1916, of the American Institute of Mining Engineers.

The reproduction method can, of course, not be applied to natural gas leaseholds, and since the unit prices as arrived at are the present fair values as part of a natural gas plant equipment, they automatically include the overhead charges and the depletion of the supply.

Sec. 8—Pipe Material

Steel pipe was practically universally used throughout the entire system, and all pipe material was figured on this basis.

Sec. 9—Weights of Pipe

For the respective sizes and classes, these are as follows:

Size	Weight per Foot
Tubing	
2"	4.5 pounds
3"	8.5 "
Casing	
5 3/8"	13 "
6 5/8"	20 "
8 1/4"	24 "
10"	32 "
14"	40.45 "

Well, Field, Transmission and Distribution Lines

Size	Weight per Foot
2"	3.71 pounds
3"	7.61 "
4"	10.98 "
4 1/2"	10.45 "
5 3/8"	13 "
5 3/4"	13 "
6"	19.18 "
6 1/4"	17 "
6 5/8"	20 "
8"	25 "
8 1/4"	24 "
10"	32 "
12"	43.77 "
13"	54.36 "
14"	54.57 "
15"	58.57 "
16"	62.57 "
18"	70.58 "
20"	78.59 "
24"	94.62 "
30"	138.32 "

Sec. 10—Well Drilling Prices

The prices for the wells were obtained by studying variation in cost of drilling different wells in the various districts ,and include the following:

a—Labor, teaming and freight; this includes the labor of setting the packer, and properly tubing the well.
b—Rig.
c—Drilling.
d—Gas and water.
e—Supplies.
f—Use of casing.
g—Casing and tubing.
h—Packer.
i—Fittings.
j—Well shooting.
k—Road building.

Sec. 11—Pipe Line Prices

The gas line prices for field and main lines, used herein, are made up of the following, which represent fair average conditions:

a—Pipe f. o. b. mill.
b—Freight.
c—Unloading from cars and hauling along line.
d—Trenching, which includes the unusual construction conditions referred to in the next section.
e—Laying of pipe; this includes placing of all fittings along the line and taking care of all stream and railroad crossings.
f—Filling trenches.
g—Fittings, such as gate valves, couplers, tees, crosses or saddles, etc.
h—Right of way, and damages for field, main and lateral lines.

The city distributing plant line prices were built up by considering the same factors, except item (h) which, of course, does not apply thereto.

Sec. 12—Unusual Construction Conditions

The extra labor involved in railroad crossings, stream crossings, and unusual digging conditions is averaged in with the total figures used on the pipe line prices.

Sec. 13—Cutting Through Pavement

In the absence of accurate data as to how much money was spent in cutting through pavements in laying mains, no reference is made to this item in this valuation.

Sec. 14—Compressing Station Prices

The unit prices used for the various compressing stations include real estate, employees' quarters, buildings, machinery, water supply system, and everything required to make a complete and operating station.

Sec. 15—Regulators

The unit prices used for the various regulators include the following:

a—Regulator.

b—Freight on regulator and regulator fittings.

c—Handling and drayage of regulator and regulator fittings.

d—Installation of regulator and its fittings.

e—Testing and adjusting of regulator installation.

f—All fittings and short pipe lengths used in installation of regulator.

The price of the regulator building is entirely separate and distinct.

Sec. 16—Services

From the best data obtainable, the average length of the services is found to be 15 feet. Each service is considered to be made up of two street ells, 15 feet of pipe, brass cock, and curb box.

Sec. 17—Meters

The meter prices include:

a—Price of meter.
b—Freight.
c—Unloading and cartage.
d—Unpacking.
e—Testing and storing.
f—Delivering and installing at consumer's premises.

For the larger meter installations, such as industrial consumers, where special pipe fitting was necessary, the cost as well as the material entering into such connections is included.

In the field measuring stations, the building as well as the special pipe fitting necessary to connect the meter, is also included. The meters, of course, are designed for higher pressures than those used in retail service.

Sec. 18—War Prices Excluded

The basis for the pipe and other material prices was obtained by studying the variation in net quotations for about 10 years prior to September 1, 1915. The reason for selecting this date was that since that time not only pipe prices, but all other prices have increased an abnormal amount. None of the unit prices in this valuation contemplate material or labor at the abnormally high prices prevailing generally since September, 1915, and especially at the present time.

Sec. 19—Age Data

Records are not available as to the exact ages of many of the parts of the property, but the following gives the best information obtainable:

The various distributing plants were started as follows:

Town	Date started to supply gas
West Virginia	
Huntington	1899
Charleston	1894
South Charleston	1917
Milliken	1916
Big Creek	1913
Blue Creek	1913
Rich Creek	1916
East Bank	1916
Coalburg	1916
Chelyan	1916
Jordan's Creek	1914
Bannister	1914
Walgrove	1914
Walton	1910
Kygar	1910
King Shoals	1917
Hunt	1917
Simonville	1916
Lock Seven and Nitro	1915
Gay	1913
Ripley	1910
Poca	1911
Elk View	1914
Three Mile	1914
Amma	1914
Newton	1914
McClanahan	1915
Hurricane	1905
Ceredo	1900
Kenova	1899
Williamson	1913
Logan	1913
Cherry Tree Bottom	1915
East Lynn	1914
Barboursville	1906
Kermit	1899
Fort Clay	1899
Ona	1906

Town	Date started to supply gas
West Viginia	
Culloden	1910
Clendenin	1903
Spencer	1898
Silverton	1912
Ravenswood	1910
Sandyville	1910
Gandeeville	1910
Reedy	1910
Ohio	
Ironton	1898
Sciotoville	1906
Wheelersburg	1906
Coal Grove	1898
New Boston	1906
Corryville	1914
Bradrick	1914
Proctorville	1914
Chesapeake	1914
Kentucky	
Ashland	1899
Catlettsburg	1899
Burnaugh	1899
Buchanan	1899
Wolfe Creek	1915
Warfield	1899
Louisa	1899
Greenup	1913
Chinnville	1914
Ivor	1899
Russell	1906

The compressing stations have all been built since 1912, the horse power in use each year being as follows:

	Horse Power
1913	2,980
1914	4,300
1915	5,755
1916	6,105
1917	14,740
1918	21,530
1919	23,145

The total length of all lines in 1919 was 2,562,530 feet. In 1914 this was 1,823,372.

The number of domestic consumers in 1919 was 36,297, and in 1910 this was 17,271.

Sec. 20—Unit Prices Represent Present Fair Value of Plant Parts

The unit prices used herein are the fair value of the respective parts of the plant to which they are applied. Since these unit prices are the present fair values, they include the overhead charges—for promotion, organization, legal, engineering, superintendence, contingencies, interest, lease rentals, and taxes during construction—which are just as much an integral part of the plant as any of the so-called physical parts, and these unit prices also consider the depreciation of the plant as a whole and the depletion of the mineral supply.

The going value of the property as a whole, which is in addition to the plant value, is, however, given separately, as discussed in the next section.

Sec. 21—Going Value

The going value of the property as a whole is that element of value is addition to the sum of the present fair values of the sum of the component parts of the plant, which results from the fact that the plant is in successful operation and has an established business. This element of enhanced value is a property right which is herein considered in determining the value of the property as a whole.

The going value of the natural gas property as a whole is taken at 10% of the plant value.

PART II.

LIST OF ITEMS ENTERING INTO PLANT WITH APPLIED UNIT PRICES

Sec. 22—Operated Natural Gas Leases

The classification here is the same as that used by the Company, namely, that all tracts under approximately 100 acres in area with producing wells thereon are considered operated acreage, and in the case of tracts having much over 100 acres in area approximately 100 acres of such tract is assigned as operated acreage for each producing well thereon.

County	District	Acres
Kentucky		
Martin		4,226 5
West Virginia		
Boone	Scott	700
"	Washington	60
Clay	Union	1,543 5
Jackson	Washington	3,463 82
Kanawha	Big Sandy	8,818 10
"	Cabin Creek	2,390
"	Elk	3,276
"	Louden	50
Lincoln	Jefferson	100
Logan	Chapmanville	596
"	Logan	100
Mingo	Harvey	500
"	Warfield	1,075
Putnam	Curry	184
"	Teays Valley	100
Roane	Curtis	4,946 5
"	Geary	11,546 24
"	Harper	105 25
"	Smithfield	2,455 91
"	Spencer	4,282 16
"	Walton	6,945 47
Wayne	Union	42
Total West Virginia		53,279 95
Total Kentucky		4,226 5
Total operated acreage in West Virginia and Kentucky is		57,506 45
The present fair value of this is placed at $300 per acre or $300x57,506.45		$17,251,800

Sec. 23—**Reserve Natural Gas Leases**

County	District	Acres
Kentucky—		
Carter		160
Elliott		12,680 5
Fleming		580 5
Floyd		8,200
Johnson		637
Lawrence		16,054
Lewis		8,183 5
Magoffin		1,380
Martin		35,016 29
Rowan		4,087
Total Kentucky		86,978 79
West Virginia—		
Boone	Crook	12,168
"	Peytonia	1,670
"	Scott	18,645 34
"	Sherman	12,601 55
"	Washington	1,639
Cabell	Grant	9,364 4
"	Union	66 5
Clay	Buffalo	230
"	Henry	20,327 67
"	Otter	666
"	Pleasant	7,744 5
"	Union	13,905 28
Fayette	Falls	9,048
"	Kanawha	473 36
Gilmer	Center	19 5
Jackson	Ravenswood	1,839 22
"	Ripley	18,761 5
"	Union	534 5
"	Washington	15,891 68
Kanawha	Big Sandy	36,648 41
"	Cabin Creek	30,565 84
"	Charleston	2,173 95
"	Elk	106,498 54
"	Jefferson	497 5
"	Loudon	24,790
"	Malden	24,700 11
"	Poca	16,225 37
"	Union	5,344 74
"	Washington	5,503
Lincoln	Carroll	136
"	Duval	10,383 45
"	Jefferson	10,883

Sec. 23—**Reserve Natural Gas Leases—Cont'd**

County	District	Acres
"	Laurel Hill	397
"	Sheridan	125
"	Union	2,683 5
"	Washington	657
Logan	Chapmansville	2,390 5
" "	Logan	1,266
Mason	Arbuckle	204
"	Clendenin	667
"	Cooper	124 5
"	Hannan	1,097
"	Union	942
Mingo	Hardee	58
"	Harvey	3,139 17
"	City of Kermit	61
"	Maynard	61 5
"	Warfield	6,939
Putnam	Buffalo	265
"	Curry	5,992 75
"	Curry Sub. No. 1	140
"	Pocotalico	2,608
"	Scott	377 5
"	Teays Valley	9,996
"	Union	23
Raleigh	Clear Fork	21,700 77
"	Marsh Fork	39,136 45
"	Tap Hill	4,782 55
"	Town	981 18
Roane	Curtis	12,049 62
"	Geary	39,308 56
"	Harper	7,370 77
"	Reedy	2,061 5
"	Smithfield	22,582 23
"	Spencer	14,621 67
"	Walton	15,872 49
Wayne	Butler	8,463
"	Grant	120
"	Lincoln	2,952
"	Stonewall	16
"	Union	40
"	Reedy	843 5
	Total West Virginia	653,162 02
	Total Kentucky	86,978 79
	Total unoperated acreage in West Virginia and Kentucky is	740,140 81

It is assumed that 20% of the above 740,140.81 unoperated acreage, or 148,028 acres, will be productive and of value for future working purposes. The present fair value of this 20% of the reserve acreage taken at $100 per acre would be 148,028 × $100 = $14,802,800.

Sec. 24—**Natural Gas Well Summary**

District	County	State	Number of Wells			
Scott	Boone	W.Va.	4	@	$6,500	$ 26,000
Washington	"	"	1	@	6,500	6,500
Union	Clay	"	17	@	8,400	142,800
Washington	Jackson	"	28 9	@	8,500	245,650
Big Sandy	Kanawha	"	117	@	7,000	819,000
Clendenin City	"	"	3	@	7,000	21,000
Cabin Creek	"	"	27	@	11,000	297,000
Elk	"	"	24	@	5,400	129,600
Jefferson	Lincoln	"	1	@	5,400	5,400
Loudon	Kanawha	"	1	@	5,400	5,400
Malden	"	"	2	@	5,400	10,800
Poca	"	"	2	@	5,400	10,800
Duval	Lincoln	"	1	@	5,600	5,600
Washington	"	"	1	@	5,600	5,600
Chapmansville	Logan	"	5	@	4,600	23,000
Logan	"	"	1	@	4,600	4,600
City of Kermit	Mingo	"	3	@	5,500	16,500
Kermit	"	"	7	@	5,500	38,500
Warfield	"	"	7	@	5,500	38,500
Curry	Putnam	"	1	@	4,000	4,000
Teays Valley	"	"	1	@	4,000	4,000
City of Spencer	Roane	"	1	@	8,000	8,000
Curtis	"	"	66	@	8,000	528,000
Geary	"	"	126	@	7,200	907,200
Harper	"	"	2	@	8,000	16,000
Smithfield	"	"	27 5	@	8,000	220,000
Spencer	"	"	52 5	@	8,000	420,000
Walton	"	"	81	@	8,500	688,500
Union	Wayne	"	2	@	6,300	12,600
	Martin	Ky.	38	@	7,000	266,000
			650 9			$4,926,550

The fractional number of wells is due to the fractional ownership condions.

Sec. 25—Natural Gas Well Drips

624.5 wells are fitted with drips. These drips are not uniform but the following fittings and labor represent a fair average. The lengths of pipe used for building of drips are included with the well line material.

2—10"x4" swedge nipples	@	$ 6.65	$ 13.30
1—10"x18" nipple	@	3.00	3.00
1—10" extra heavy tee	@	16.35	16.35
1—10" extra heavy ell	@	12.38	12.38
1—10" drip cap	@	5.10	5.10
2—2"x12" nipples	@	.15	.30
4—2" pipe	@	.08	.32
1—2" special flange	@	.90	.90
1—½"x6" nipple	@	.03	.03
1—½" extra heavy brass stop	@	2.50	2.50
1—½" plug	@	.01	.01
1—2" extra heavy ell	@	.60	.60
1—2" extra heavy gate	@	6.43	6.43
160-lb. lead	@	.08	12.80
Labor			160.00
Teaming			30.00
Freight			10.00
624.5 wells	@	$274.02	$171,113.00

Sec. 26—Natural Gas Well Line Summary

Size	Feet			
2	194,928	@	$ .19	$ 37,036.32
3	88,303	@	.34	30,023.02
4	581,360	@	.50	290,680.00
4⅝	1,196	@	.58	693.68
5¾	9,176	@	.62	5,689.12
6	38,509	@	.75	28,881.75
6¼	43	@	.67	28.81
8	2,214	@	1.16	2,568.24
8¼	560	@	1.16	649.60
10	14,241	@	1.52	21,646.32
	930,530			$417,896.86

Sec. 27—**Field Line Summary**

Size	Feet			
2	97,973	@	$ .19	$ 18,614.87
3	126,794	@	.34	43,109.96
4	243,513	@	.50	121,756.50
5 3/8	2,427	@	.60	1,456.20
5 3/4	1,902	@	.62	1,179.24
6	442,359	@	.75	331,769.25
6 1/4	4,489	@	.67	3,007.63
6 3/8	26,661	@	.70	18,662.70
8	328,207	@	1.16	380,720.12
8 1/4	4,572	@	1.16	5,303.52
10	275,307	@	1.52	418,466.64
12	72,489	@	1.85	134,104.65
14	4,714	@	2.35	11,077.90
16	73	@	2.84	207.32
18	325	@	3.34	1,085.50
20	195	@	3.90	760.50
	1,632,000			$1,491,282.50

Sec. 28—**Field Gas Measuring Station Summary**

No.	Kind	Size			
1	Wylie	8 M	@	$375.00	$ 375.00
1	Wylie	15 M	@	425.00	425.00
1	Wylie	30 M	@	540.00	540.00
1	Emco	3 M	@	400.00	400.00
1	Emco	5 M	@	675.00	675.00
2	Westinghouse	3 M	@	150.00	300.00
1	Westinghouse	5 M	@	170.00	170.00
67	Orifice	4"	@	475.00	31,825.00
14	Orifice	4"	@	850.00	11,900.00
					$46,610.00

The following miscellaneous list of meters are used entirely for measuring gas out of the field and main lines; a very large percentage of these are located in the field, and they are, for this reason, all given here together.

No.	Kind	Size			
4	Equitable	1	@	$ 9.60	$ 38.40
71	Equitable	2	@	10.20	724.20

2	Equitable	6	@	20.00	40.000
15	Ironclad	1	@	10.20	153.00
3	Ironclad	2	@	15.20	45.60
77	Keystone	0	@	10.20	785.4
3	Keystone	1	@	13.20	39.60
2	Keystone	2	@	16.20	32.40
4	Keystone	3	@	20.00	80.00
373	Tobey	A	@	10.00	3,730.00
513	Tobey	1	@	10.50	5,386.50
2	Tobey	2	@	12.50	25.00
2	Tobey	3	@	21.00	42.00
8	Tobey	4	@	55.00	440.00
1	Tobey	5	@	90.00	90.00
34	Emco	0	@	9.20	312.80
1	Emco	2	@	10.20	10.20
3	Wylie	10 M	@	244.00	732.00
2	Wylie	15 M	@	300.00	600.00
1	Wylie	40 M	@	450.00	450.00
1	Westinghouse	6 M	@	170.00	170.00
5	Westinghouse	10 M	@	218.00	1,090.00
1	Westinghouse	15 M	@	255.00	255.00
4	Westinghouse	20 M	@	281.00	1,124.00
4	Westinghouse	20 M	@	281.00	1,124.00
1	Westinghouse	30 M	@	365.00	365.00
1	Westinghouse	40 M	@	435.00	435.00
57	Iron Case	5 B	@	12.00	684.00
	Total field gas measuring stations			$64,490.10	$17,880.10

Sec 29 **Compressing Station Summary**

Name of Station	Horse Power			
Buff Lick	1,850	@	$ 90.00	$166,500
Cobb	4,850	@	65.00	315,250
Goad	700	@	90.00	63,000
Hale	200	@	110.00	22,000
Kanawha	4,850	@	65.00	315,250
Kermit	2,200	@	68.00	149,600
Porter	510	@	100.00	51,000
Spencer	5,065	@	65.00	329,225
Torman	90	@	120.00	10,800
Walbridge	980	@	70.00	68,600
Walgrove	1,670	@	70.00	116,900
Ward	180	@	110.00	19,800
	23,145			$1,627,925

Sec. 30—**Field Headquarters**

Horses and Vehicles made up of:	
35 draft horses	
10 driving horses	
4 saddle horses	
29 wagons	
Saddles, harness, etc., estimated at	$ 21,000
General Warehouse and Shop at Clendenin, West Va.	
Lot 140' x 180'.	
Warehouse building, 57'x80'x14' high.	
House 22'x34', 2-story frame, 7 rooms and bath; no basement.	
Barn 30'x57', 2-story frame.	
Estimated at	23,500
Warehouse at Kermit, West Va.:	
10 lots, each 25'x100'.	
Warehouse building 28'x48'x14' high, frame	
House 42'x32', 2-story frame; 7 rooms and bath; with basement.	
Barn 26'x48'x16', 2-story frame.	
Estimated at	20,000
General tools and equipment	26,000
Cleaning out tools and equipment	19,000
Drilling tools	90,000
	$199,500

Sec. 31—**Main Transmission Line Summary**

Size	Feet of Pipe			
2	110,792	@	$ .19	$ 21,050.48
3	10,052	@	.34	3,417.68
4	40,689	@	.50	20,344.50
5⅛	15,565	@	.62	9,650.30
6	133,962	@	.75	100,471.50
6⅛	309	@	.70	216.30
8	225,671	@	1.16	261,778.36
8⅛	626	@	1.16	726.16
10	707,001	@	1.52	1,074,641.52
12	140,001	@	1.85	259,001.85
13	22	@	2.10	46.20
14	266,894	@	2.35	627,200.90
15	2,088	@	2.60	5,428.80
16	451,770	@	2.84	1,283,026.80
18	127,882	@	3.34	427,125.88
20	467,260	@	3.90	1,822,314.00
24	403	@	4.55	1,833.65
30	276	@	6.50	1,794.00
	2,701,263			$5,920,068.88

Sec. 32—Main Line Gas Measuring Stations Summary

No.	Kind	Size			
11	Orifice	4"	@	$ 475	$ 5,225
12	Orifice	8"	@	850	10,200
1	Pitot Tube Station	5"	@	4,500	4,500
1	Pitot Tube Station	6"	@	4,500	4,500
1	Pitot Tube Station	3"	@	4,500	4,500
1	Pitot Tube Station	4"	@	4,500	4,500
1	Venturi Tube Station	4"	@	4,500	4,500
1	Wylie Meter	15 M	@	425	425
					$38,350

Sec. 33—Telephone and Telegraph Lines

The 382.93 miles of telephone and telegraph lines are made up of the following:

No.			
9	Copper Wire	338 25	miles
10	Copper Wire	155 2	"
12	Copper Wire	4	"
14	Twisted Wire	33	"
16	Copper Wire	51	"
19	Insulated Wire	8	"
8	Iron Wire	3 9	"
8	Galvanized Wire	87 67	"
10	Iron Wire	10	"
10	Galvanized Wire	5 35	"
12	Iron Wire	34 83	"
12	Galvanized Wire	145 37	"
14	Galvanized Wire	66	"

186 Telephones.

The estimated fair value of this 382.93 miles of system is $105,000.

Sec. 34—Main Line Headquarters

Main line tools and equipment	$ 8,000
382.93 miles of telephone and telegraph lines as itemized in preceding section	$105,000
	$113,000

Sec. 35—Huntington, West Virginia, Distributing Plant

Pipe

121,623 feet	2	inch	@	$ .22	$26,757.06
176,133 feet	3	inch	@	.39	68,691.87
158,988 feet	4	inch	@	.55	87,443.40
15 feet	5 3/8	inch	@	.60	9.00
61 feet	5 3/4	inch	@	.62	37.82
40,883 feet	6	inch	@	.80	32,706.40
70,457 feet	8	inch	@	1.20	84,548.40
18,219 feet	10	inch	@	1.50	27,328.50
215 feet	12	inch	@	1.76	378.40
340 feet	15	inch	@	2.60	884.00

Regulators

1—1	inch low pressure	@	$ 25.00	$ 25.00
2—1¼	inch low pressure	@	25.00	50.00
5—2	inch low pressure	@	51.00	255.00
1—3	inch low pressure	@	88.00	88.00
6—4	inch low pressure	@	127.00	762.00
2—4x6	low pressure	@	127.00	254.00
2—6x6	low pressure	@	232.00	696.00
1—6x8	low pressure	@	232.00	232.00
4—8x8	low pressure	@	260.00	1,040.00
1—6	inch medium pressure	@	232.00	232.00
1—8	inch medium pressure	@	260.00	260.00
3—1	inch high pressure	@	25.00	75.00
1—2	inch high pressure	@	51.00	51.00
2—3	inch high pressure	@	88.00	176.00
1—4	inch high pressure	@	127.00	127.00
2—6	inch high pressure	@	232.00	464.00
2—8	inch high pressure	@	260.00	520.00

Regulator Buildings

2— 4'	x 3' galvanized iron	@	$ 20.00	$ 40.00
2— 4'	x 4' galvanized iron	@	20.00	40.00
1— 5'	x 7' galvanized iron	@	25.00	25.00
2— 6'	x 8' galvanized iron	@	30.00	60.00
1— 6'	x10' galvanized iron	@	30.00	30.00
6— 8'	x10' galvanized iron	@	35.00	210.00
2—10'	x12' galvanized iron	@	45.00	90.00
1—14'	x16' galvanized iron	@	65.00	65.00
— 8'	x13' frame	@	35.00	35.00
1—10'	x10' brick	@	165.00	165.00
1—10'6"x17'6"	brick	@	165.00	165.00
1—11'	x 7' brick	@	165.00	165.00
1—11'7"x17'	brick	@	165.00	165.00
1—11'8"x14'	brick	@	165.00	165.00
2—12'	x15' brick	@	200.00	400.00
1—16'	x36' brick	@	250.00	250.00

Services

9—1	inch	@	$ 7.88	$ 70.92
10,247—1¼	inch	@	7.88	80,746.36
190—1½	inch	@	7.88	1,497.20
64—2	inch	@	10.57	676.48

Meters

2,257	Tobey A	@	$ 8.00	$ 18,056.00
32	Tobey B	@	8.20	262.40
1	Tobey 1	@	8.50	8.50
6	Tobey 2	@	10.50	63.00

2 Tobey 3	@	17.70	35.40
6 Tobey 4	@	50.00	300.00
2,405 Ironclad 1	@	8.20	19,721.00
26 Ironclad 2	@	13.20	343.20
6 Ironclad 4	@	42.00	252.00
753 Ironcase 5-B	@	8.00	6,024.00
1 Ironcase A	@	8.00	8.00
1,799 Keystone 0	@	8.20	14,751.80
100 Keystone 1	@	11.20	1,120.00
25 Keystone 2	@	14.20	355.00
14 Keystone 3	@	18.00	252.00
1 Emco 0	@	7.20	7.20
1 Sprage	@	8.20	8.20
2 Wylie 15-M	@	260.00	520.00
1 Westinghouse Proport. 5-M	@	179.00	179.00
1 Westinghouse Proport. 15-M	@	244.00	244.00
1 Westinghouse Proport. 50-M	@	522.00	522.00
1 Westinghouse Proport. 100-M	@	850.00	850.00
11 Tin	@	7.20	79.20
Headquarters			
Office building and lot	@	$18,000.00	$ 18,000.00
Office equipment	@	3,600.00	3,600.00
Tools and Equipment	@	6,000.00	6,000.00
Total for Huntington, West Virginia, distributing plant			$510,706.71

Sec. 36—**Charleston, West Virginia, Distributing Plant**

Pipe			
164,029 feet 2 inch	@	$ .22	$22,886.38
177,010 feet 3 inch	@	.39	69,033.90
177,554 feet 4 inch	@	.55	97,654.70
42,261 feet 6 inch	@	.80	33,808.80
74,729 feet 8 inch	@	1.20	89,674.80
167 feet 12 inch	@	1.76	293.92
208 feet 14 inch	@	2.10	436.80
1,598 feet 2½ inch casing	@	.29	463.42
1,510 feet 10 casing	@	1.50	2,265.00
16 feet 16 casing	@	2.84	45.44
Regulators			
1—1¼ inch low pressure	@	$ 25.00	$ 25.00
8—2 inch low pressure	@	51.00	408.00
19—3 inch low pressure	@	88.00	1,672.00
29—4 inch low pressure	@	127.00	3,683.00
5—6 inch low pressure	@	232.00	1,160.00
2—8 inch low pressure	@	260.00	520.00
1—6 inch low pressure	@	232.00	232.00
3—8 inch low pressure	@	260.00	780.00

Regulator buildings—				
1— 3'x12' galvanized iron	@	$ 20.00	$	20.00
1— 4'x 4' galvanized iron	@	20.00		20.00
2— 4'x 6' galvanized iron	@	20.00		40.00
1— 5'x 5' galvanized iron	@	25.00		25.00
1— 6'x 8' galvanized iron	@	30.00		30.00
1— 8'x10' galvanized iron	@	35.00		35.00
1—10'x12' galvanized iron	@	45.00		45.00
1— 6'x 6' galvanized iron	@	25.00		25.00
1— 4'x 4' frame	@	20.00		20.00
1— 4'x 6' frame	@	20.00		20.00
1— 5'x 8' frame	@	25.00		25.00
1— 6'x 8' frame	@	30.00		30.00
1— 6'x 9' frame	@	30.00		30.00
1— 7'x14' frame	@	35.00		35.00
1— 9'x15' frame	@	35.00		35.00
1—10'x22' frame	@	45.00		45.00
3— 4'x 6' frame	@	20.00		60.00
1— 4'x 4' frame	@	20.00		20.00
1— 4'x12' frame	@	20.00		20.00
1— 5'x 5' frame	@	25.00		25.00
1— 5'x 6' frame	@	25.00		25.00
4— 6'x 6' frame	@	30.00		120.00
1— 6'x 7' frame	@	30.00		30.00
9— 6'x 8' frame	@	30.00		270.00
1— 6'x10' frame	@	30.00		30.00
5— 8'x 8' frame	@	35.00		175.00
1— 8'x10' frame	@	35.00		35.00
2— 8'x10' frame	@	35.00		70.00
1—10'x22' frame	@	45.00		45.00
1—18'x34' frame	@	45.00		45.00
1— 8'x14' brick	@	165.00		165.00
2—10'x10' brick	@	165.00		330.00
1—11'x13' brick	@	165.00		165.00
1—16'x20' brick	@	250.00		250.00
Services—				
9,546—1¼ inch	@	$ 7.88	$	74,513.28
145—2 inch	@	10.57		1,532.65
17—1½ inch	@	7.88		133.96
37—1 inch	@	7.88		291.56
Meters—				
172 Equitable 1	@	$ 8.00	$	1,376.00
1,034 Equitable 2	@	8.20		8,478.80
25 Equitable 4	@	9.85		246.25
3 Equitable 5	@	14.70		44.10
29 Equitable 6	@	15.20		440.80
622 Ironclad 1	@	8.20		5,100.40

10	Ironclad 2	@	13.20	132.00
11	Ironclad 3	@	17.20	189.20
1,364	Keystone 0	@	8.20	11,184.80
8	Keystone 1	@	11.20	89.60
6	Keystone 2	@	14.20	85.20
19	Keystone 3	@	18.00	342.00
2,701	Tobey A	@	8.00	21,608.00
2,386	Tobey 1	@	8.50	20,281.00
32	Tobey 2	@	10.50	336.00
30	Tobey 3	@	17.70	531.00
39	Tobey 4	@	50.00	1,950.00
4	Tobey 5	@	83.00	332.00
130	Emco 0	@	7.20	936.00
2	Emco 1	@	8.00	16.00
1,317	Iron Case 5-B	@	8.00	10,536.00
9	Westinghouse 8	@	19.00	171.00
1	Westinghouse 12	@	45.00	45.00
19	Westinghouse 25	@	85.00	1,615.00
5	Wylie 8-M	@	100.00	1,000.00
3	Wylie 15-M	@	260.00	780.00
2	Wylie 10-M	@	244.00	488.00
3	Wylie 10-M	@	304.00	912.00
1	Wylie 40-M	@	440.00	440.00
1	Westcott 10-M	@	244.00	244.00
14	Westinghouse Proport. 5-M	@	179.00	2,506.00
1	Westinghouse Proport. 6-M	@	190.00	190.00
1	Westinghouse Proport. 8-M	@	200.00	200.00
12	Westinghouse Proport. 10-M	@	208.00	2,496.00
10	Westinghouse Proport. 15-M	@	244.00	2,440.00
5	Westinghouse Proport. 20-M	@	271.00	1,355.00
2	Westinghouse Proport. 25-M	@	318.00	636.00
12	Westinghouse Proport. 30-M	@	355.00	4,260.00
6	Westinghouse Proport. 40-M	@	425.00	2,550.00
2	Westinghouse Proport. 50-M	@	522.00	1,044.00
3	Westinghouse Proport. 75-M	@	700.00	2,100.00
3	Westinghouse Proport. 100-M	@	850.00	2,550.00

Headquarters

Shop	@	$1,500.00	$ 1,500.00
Office equipment	@	2,200.00	2,200.00
Tools and equipment	@	6,000.00	6,000.00

Total for Charleston, West Virginia, distributing plant $525,866.76

Sec. 37—South Charleston, West Virginia Distributing Plant

Pipe

8,239 feet	2 inch	@	$ .22	$ 1,812.58
27,048 feet	3 inch	@	.39	10,548.72

6,210 feet 4 inch	@	.55	3,415.50
1,881 feet 6 inch	@	.80	1,504.80
7,731 feet 8 inch	@	1.20	9,277.20
19 feet 10 inch	@	1.50	28.50
58 feet 12 inch	@	1.76	102.08
Regulators			
1—1 inch low pressure	@	$ 25.00	$ 25.00
3—3 inch low pressure	@	88.00	264.00
2—4 inch low pressure	@	127.00	254.00
2—6 inch low pressure	@	232.00	464.00
3—8 inch low pressure	@	260.00	780.00
1—6 inch high pressure	@	232.00	232.00
Regulator buildings			
1— 6'x10' galvanized iron	@	$ 30.00	$ 30.00
1—12'x14' galvanized iron	@	45.00	45.00
1— 6'x 8' galvanized iron	@	63.00	63.00
1— 6'x 6' frame	@	30.00	30.00
1— 6'x 8' frame	@	30.00	30.00
1— 7'x 7' frame	@	35.00	35.00
Services			
536—1¼ inch	@	$ 7.88	$ 4,223.68
5—1 inch	@	7.88	39.40
8—1½ inch	@	10.57	84.56
1—2 inch	@	10.57	10.57
Meters			
5 Equitable	@	$ 8.00	$ 40.00
69 Equitable 2	@	8.20	565.80
37 Ironclad 1	@	8.20	303.40
1 Ironclad 2	@	13.20	13.20
76 Keystone 0	@	8.20	623.20
224 Tobey A	@	8.00	1,792.00
51 Tobey 1	@	8.50	443.50
13 Emco 0	@	7.20	93.60
1 Westinghouse Proportional 15-M	@	244.00	244.00
1 Westinghouse Proportional 30-M	@	355.00	355.00
2 Westinghouse Proportional 50-M	@	522.00	1,044.00
2 Equitable 6	@	15.20	30.40
1 Tobey 4	@	50.00	50.00
1 Keystone 3	@	18.00	18.00
124 Iron Case 5-B	@	8.00	992.00
1 Wylie 30-M	@	370.00	370.00
1 Westinghouse Proportional 100M	@	850.00	850.00
Total for South Charleston, West Virginia, distributing plant			$41,117.69

Sec. 38—**Milliken, West Virginia, Distributing Plant**

Pipe—			
54 feet 2 inch	@	$ .22	$ 11.88
Regulator—			
2—1-inch high pressure	@	$ 25.00	$ 50.00
Meters—			
12 Tobey A	@	$ 8.00	$ 96.00
Total for Milliken, West Virginia, distributing plant			$ 157.88

Sec. 39—**Big Creek, West Virginia, Distributing Plant**

Pipe—			
727 feet 2 inch	@	$ .22	$ 159.94
1,515 feet 3 inch	@	.39	590.85
16 feet 4 inch	@	.55	8.80
Regulators—			
1—3 inch low pressure	@	$ 88.00	$ 88.00
1—2 inch high pressure	@	51.00	51.00
Regulator buildings—			
1—12'x12' galvanized iron	@	$ 45.00	$ 45.00
Services—			
11—1¼ inch	@	$ 7.88	$ 86.68
Meters—			
8 Tobey A	@	$ 8.00	$ 64.00
31 Ironclad 1	@	8.20	254.20
Total for Big Creek, West Virginia, distributing plant			$ 1,348.47

Sec. 40—**Blue Creek, West Virginia, Distributing Plant**

Pipe—			
3,164 feet 2 inch	@	$ .22	$ 696.08
227 feet 4 inch	@	.55	124.85
21 feet 6 inch	@	.80	16.80
23 feet 6⅝ inch	@	.78	17.94
76 feet 10 inch	@	1.50	114.00
Regulators—			
2—2 inch low pressure	@	$ 51.00	$ 102.00
2—1 inch high pressure	@	25.00	50.00
Regulator buildings—			
2—6'x10' galvanized iron	@	$ 30.00	$ 60.00

Services—				
56—1¼ inch	@	$ 7.88	$	441.28
Meters—				
1 Keystone 0	@	$ 8.20	$	8.20
40 Tobey A	@	8.00		320.00
4 Tobey 1	@	8.50		34.00
2 Emco 0	@	7.20		14.40
1 Ironcase 5-B	@	8.00		8.00
Total for Blue Creek, West Virginia, distributing plant			$	2,007.55

Sec. 41—Rich Creek, West Virginia, Distributing Plant

Pipe—				
62 feet 2 inch	@	$ .22	$	13.64
Regulators—				
1—1 inch low pressure	@	$ 25.00	$	25.00
2—1 inch high pressure	@	25.00		50.00
Regulator buildings—				
1—4'x8' wooden box	@	$ 15.00	$	15.00
Meters—				
8 Tobey A	@	$ 8.00	$	64.00
1 Emco 0	@	7.20		7.20
Total for Rich Creek, West Virginia, distributing plant			$	174.84

Sec. 42—East Bank, West Virginia, Distributing Plant

Pipe—				
14,037 feet 2 inch	@	$ .22	$	3,084.14
4 feet 3 inch	@	.39		1.56
362 feet 6 inch	@	.80		289.60
340 feet 8 inch	@	1.20		408.00
Regulators—				
1—1 inch low pressure	@	$ 25.00	$	25.00
3—2 inch low pressure	@	51.00		153.00
1—1½ inch high pressure	@	40.00		40.00
1—1 inch high pressure	@	25.00		25.00
2—3 inch high pressure	@	88.00		176.00
Regulator buildings—				
1—8'x18' galvanized iron	@	$ 35.00	$	35.00
1—9'x10' galvanized iron	@	35.00		35.00
1—6'x 8' frame	@	30.00		30.00
1—6'x10' frame	@	30.00		30.00

Services—				
138—1¼ inch	@	$ 7.88	$	1,087.44
4—1 inch	@	7.88		31.52
Meters—				
9 Ironclad 1	@	$ 8.20	$	73.80
53 Tobey 1	@	8.50		450.50
Headquarters—				
Tools and equipment	@	$200.00		200.00
Total for East Bank, West Virginia, distributing plant			$	6,179.56

Sec. 43—Coalburg, West Virginia, Distributing Plant

Pipe—				
23,270 feet 2 inch	@	$ .22	$	5,119 40
9 feet 3 inch	@	.39		3.51
139 feet 4 inch	@	.55		76.45
Regulators—				
8—1 inch low pressure	@	$ 25.00	$	200.00
1—2 inch high pressure	@	51.00		51.00
4—½ inch high pressure	@	15.00		60.00
1—3 inch high pressure	@	88.00		88.00
Regulator buildings—				
1—8'x10' galvanized iron	@	$ 35.00	$	35.00
1—10'x12' galvanized iron	@	45.00		45.00
1—6'x 7' frame	@	30.00		30.00
Services—				
86—1¼ inch	@	$ 7.88	$	677.68
21—1 inch	@	7.88		165.48
Meters—				
10 Ironclad 1	@	$ 8.20	$	82.00
91 Tobey 1	@	8.50		773.50
10 Ironcase 5-B	@	8.00		80.00
Total for Coalburg, West Virginia, distributing plant			$	7,487.02

Sec. 44—Chelyan, West Virginia, Distributing Plant

Pipe—				
24,919 feet 2 inch	@	$ .22	$	5,482.18
128 feet 6 inch	@	.80		102.40
246 feet 8 inch	@	1.20		295.20
Regulators—				
4—2 inch low pressure	@	$ 51.00	$	204.00

Regulator buildings			
1—8'x8' galvanized iron	@	$ 35.00	$ 35.00
1—4'x6' frame	@	20.00	20.00
Services			
154—1¼ inch	@	$ 7.88	$ 1,213.52
6—1 inch	@	7.88	47.28
Meters			
26 Ironclad 1	@	$ 8.20	$ 213.20
189 Tobey 1	@	8.50	1,606.50
Total for Chelyan, West Virginia, distributing plant			$ 9,219.28

Sec. 45—**Jordan's Creek, West Virginia, Distributing Plant**

Pipe—			
1,697 feet 2 inch	@	$ .22	$ 373.34
5 feet 4 inch	@	.55	2.75
Regulators			
1—1 inch low pressure	@	$ 25.00	$ 25.00
2—1 inch high pressure	@	25.00	50.00
Regulator buildings			
1—6'x10' frame	@	$ 30.00	$ 30.00
Services			
9—1¼ inch	@	$ 7.88	$ 70.92
Meters			
8 Tobey A	@	$ 8.00	$ 64.00
3 Tobey 1	@	8.50	25.50
1 Ironcase 5-B	@	8.00	8.00
Total for Jordan's Creek, West Virginia, distributing plant			$ 649.51

Sec. 46—**Bannister, West Virginia, Distributing Plant**

Pipe			
950 feet 2 inch	@	$ .22	$ 209.00
Regulators			
1—1 inch low pressure	@	$ 25.00	$ 25.00
1—1 inch high pressure	@	25.00	25.00
Services			
16—1¼ inch	@	$ 7.88	$ 126.08

Meters

5 Tobey A	@	$ 8.00	$ 40.00
16 Emco 0	@	7.20	115.20
1 Ironcase 5-B	@	8.00	8.00
Total for Bannister, West Virginia, distributing plant			$ 548.28

Sec. 47—**Walgrove, West Virginia, Distributing Plant**

Pipe

938 feet 2 inch	@	$ .22	$ 206.36

Regulators

1—1 inch low pressure	@	$ 25.00	$ 25.00
1—1 inch high pressure	@	25.00	25.00

Regulator buildings

1—6'x14' galvanized iron	@	$ 35.00	$ 35.00

Services

16—1½ inch	@	$ 7.88	$ 126.08

Meters

6 Tobey A	@	$ 8.00	$ 48.00
Total for Walgrove, West Virginia, distributing plant			$ 465.44

Sec. 48—**Walton, West Virginia, Distributing Plant**

Pipe

6,318 feet 2 inch	@	$ .22	$ 1,389.96
116 feet 3 inch	@	.39	45.24

Regulators

1—3 inch low pressure	@	$ 88.00	$ 88.00
1—3 inch high pressure	@	88.00	88.00

Regulator buildings

2—6'x12' galvanized iron	@	$ 35.00	$ 70.00

Services

56—1¼ inch	@	$ 7.88	$ 441.28

Meters

35 Equitable 2	@	$ 8.20	$ 287.00
37 Tobey 1	@	8.50	314.50

Headquarters

Tools and equipment	@	$ 25.00	$ 25.00
Total for Walton, West Virginia, distributing plant			$ 2,748.98

Sec. 49—Kygar, West Virginia, Distributing Plant

Pipe			
1,012 feet 2 inch	@	$ .22	$ 222.64
14 feet 6 inch	@	.80	11.20
Regulators			
1—1 inch high pressure	@	$ 25.00	$ 25.00
1—2 inch low pressure	@	51.00	51.00
Regulator buildings			
Service			
8—1¼ inch	@	$ 7.88	$ 63.04
Meters			
18 Tobey 1	@	$ 8.50	$ 153.00
Total for Kygar, West Virginia, distributing plant			$ 525.88

Sec. 50—King Shoals, West Virginia, Distributing Plant

Pipe			
877 feet 2 inch	@	$ .22	$ 192.94
Regulators			
1—1 inch low pressure	@	$ 25.00	$ 25.00
1—1 inch high pressure	@	25.00	25.00
Regulator buildings			
2—4'x4' frame	@	$ 20.00	$ 40.00
Services			
5—1¼ inch	@	$ 7.88	$ 39.40
Meters			
7 Tobey A	@	$ 8.00	$ 56.00
Total for King Shoals, West Virginia, distributing plant			$ 378.34

Sec. 51—Hunt, West Virginia, Distributing Plant

Pipe			
12,024 feet 2 inch	@	$ .22	$ 2,645.28
245 feet 3 inch	@	.39	95.55
4 feet 8 inch	@	1.20	4.80
Regulators			
1—1 inch high pressure	@	$ 25.00	$ 25.00
1—2 inch high pressure	@	51.00	51.00

Regulator buildings—			
1—6'x12' frame	@	$ 30.00	$ 30.00
Services—			
124—1¼ inch	@	$ 7.88	$ 977.12
Meters—			
17 Tobey A	@	$ 8.00	$ 136.00
16 Tobey 1	@	8.50	136.00
1 Emco 0	@	7.20	7.20
Total for Hunt, West Virginia, distributing plant			$ 4,107.95

Sec. 52—**Sissonville, West Virginia, Distributing Plant**

Pipe—			
5,575 feet 2 inch	@	$ .22	$ 1,226.50
Regulators—			
1—2 inch low pressure	@	$ 51.00	$ 51.00
1—2 inch medium pressure	@	51.00	51.00
1—2 inch high pressure	@	51.00	51.00
Regulator buildings—			
1—6'x8'x17' frame	@	$ 35.00	$ 35.00
Services—			
33—1¼ inch	@	$ 7.88	$ 260.04
Meters—			
23 Tobey 1	@	$ 8.50	$ 195.50
1 Tobey 2	@	10.50	10.50
Headquarters—			
Tools and equipment	@	$ 20.00	$ 20.00
Total for Sissonville, West Virginia, distributing plant			$ 1,900.54

Sec. 53—**Lock Seven, West Virginia, Distributing Plant**

Pipe—			
5,200 feet 2 inch	@	$ .22	$ 1,144.00
10 feet 3 inch	@	.39	3.90
10 feet 8 inch	@	1.20	12.00
Regulators—			
3—2 inch low pressure	@	$ 51.00	$ 153.00
1—3 inch low pressure	@	88.00	88.00
3—2 inch medium pressure	@	51.00	153.00

2—6 inch medium pressure	60	232.00	464.00
1—1 inch high pressure	60	25.00	25.00
2—2 inch high pressure	60	51.00	102.00
1—4 inch high pressure	60	127.00	127.00
1—6 inch high pressure	60	232.00	232.00
Regulator buildings			
1— 3'x 3' frame	60	$ 15.00	$ 15.00
1— 4'x 8' frame	60	20.00	20.00
1— 6'x 6' frame	60	30.00	30.00
1—10'x18' frame	60	45.00	45.00
Service			
19—1¼ inch	60	$ 7.88	$ 149.72
Meters			
17 Tobey A	60	$ 8.00	$ 136.00
10 Tobey 1	60	8.50	85.00
1 Tobey 5	60	83.00	83.00
6 Ironcase 5-B	60	8.00	48.00
Total for Lock Seven, West Virginia, distributing plant			$ 3,115.62

Sec. 54—**Gay, West Virginia, Distributing Plant**

Pipe			
5,609 feet, 2 inch	60	$ .22	$ 1,233.98
Regulators			
1—1½ inch low pressure	60	$ 25.00	$ 25.00
3—2 inch low pressure	60	51.00	153.00
3—2 inch high pressure	60	51.00	153.00
Services			
38—1¼ inch	60	$ 7.88	$ 299.44
Meters			
1 Equitable 2	60	$ 8.20	$ 8.20
6 Tobey A	60	8.00	48.00
42 Tobey 1	60	8.50	357.00
Total for Gay, West Virginia distributing plant			$ 2,277.62

Sec. 55—**Ripley, West Virginia, Distributing Plant**

Pipe			
3,810 feet 2 inch	60	$ .22	$ 794.20
11,523 feet 3 inch	60	.39	4,493.97
3,177 feet 4 inch	60	.55	1,747.35
19 feet 8⅝ casing	60	.78	14.82

Regulators			
1—1¼ inch high pressure	@	$ 25.00	$ 25.00
1—2 inch high pressure	@	51.00	51.00
2—3 inch low pressure	@	88.00	176.00
Regulator buildings			
2— 7'x 8' galvanized iron	@	$ 35.00	$ 70.00
1— 8'x 8' galvanized iron	@	35.00	35.00
1—10'x10' galvanized iron	@	45.00	45.00
Services			
3—1 inch	@	$ 7.88	$ 23.64
274—1¼ inch	@	7.88	2,159.12
Meters			
278 Tobey 1	@	$ 8.50	$ 2,363.00
2 Tobey 2	@	10.50	21.00
3 Tobey 4	@	50.00	150.00
1 Keystone 2	@	14.20	14.20
Headquarters			
Tools and equipment	@	$100.00	$ 100.00
Total for Ripley, West Virginia, distributing plant			$12,283.30

Sec. 56—**Poca, West Virginia, Distributing Plant**

Pipe			
4,852 feet, 2 inch	@	$ .22	$ 1,067.44
1,855 feet, 3 inch	@	.39	723.45
Regulators			
1—2 inch low pressure	@	$ 51.00	$ 51.00
1—2 inch medium pressure	@	51.00	51.00
1—2 inch high pressure	@	51.00	51.00
Regulator buildings			
1—8'x17' frame	@	$ 35.00	$ 35.00
Services			
98—1¼ inch	@	$ 7.88	$ 772.24
2—1 inch	@	7.88	15.76
Meters			
100 Tobey 1	@	$ 8.50	$ 850.00
1 Tobey 4	@	50.00	50.00
5 Ironcase 5-B	@	8.00	40.00
Total for Poca, West Virginia, distributing plant			$ 3,706.89

Sec. 57—**Three Mile, West Virginia, Distributing Plant**

Pipe—			
2,109 feet, 2 inch	60	$ .22	$ 463.98
Regulators—			
1—1 inch low pressure	60	$ 25.00	$ 25.00
1—1 inch high pressure	60	25.00	25.00
Regulator buildings—			
1—4'x10' frame	60	$ 20.00	$ 20.00
Services—			
11—1¼ inch	60	$ 7.88	$ 86.68
Meters—			
9 Tobey A	60	$ 8.00	$ 72.00
1 Emco 0	60	7.20	7.20
Total for Three Mile, West Virginia, distributing plant			$ 699.86

Sec. 58—**Elk View, Virginia, Distributing Plant**

Pipe—			
4,564 feet, 2 inch	60	$ .22	$ 1,004.08
59 feet, 3 inch	60	.39	23.01
3 feet, 4 inch	60	.55	1.65
Regulators—			
1—2 inch low pressure	60	$ 51.00	$ 51.00
1—1½ inch high pressure	60	25.00	25.00
Regulator buildings—			
1—6'x12' galvanized iron	60	$ 35.00	$ 35.00
Services—			
30—1¼ inch	60	$ 7.88	$ 236.40
Meters—			
2 Ironclad 1	60	$ 8.20	$ 16.40
52 Tobey A	60	8.00	416.00
9 Tobey 1	60	8.50	76.50
1 Emco 0	60	7.20	7.20
1 Ironcase 5-B	60	8.00	8.00
Total for Elk View, West Virginia, distributing plant			$ 1,900.24

Sec. 59—Amma, West Virginia, Distributing Plant

Pipe—				
2,621 feet, 2 inch	@	$ .22	$	576.62
Regulators—				
1—1 inch low pressure	@	$ 25.00	$	25.00
1—1 inch high pressure	@	25.00		25.00
Regulator buildings—				
1—8'x10' galvanized iron	@	$ 35.00	$	35.00
Services—				
13—1¼ inch	@	$ 7.88	$	102.44
Meters—				
3 Equitable 2	@	$ 8.20	$	24.60
5 Tobey A	@	8.00		40.00
8 Tobey 1	@	8.50		68.00
1 Ironclad 1	@	8.20		8.20
2 Ironcase 5-B	@	8.00		16.00
Total for Amma, West Virginia, distributing plant			$	920.86

Sec. 60—Newton, West Virginia, Distributing Plant

Pipe—				
85 feet, 2 inch	@	$ .22	$	18.70
Regulators—				
1—1 inch low pressure	@	$ 25.00	$	25.00
1—2 inch low pressure	@	51.00		51.00
2—1 inch high pressure	@	25.00		50.00
Regulator buildings—				
1—8'x9' frame	@	$ 35.00	$	35.00
Meters—				
17 Tobey A	@	$ 8.00	$	136.00
1 Tobey 1	@	8.50		8.50
Total for Newton, West Virginia, distributing plant			$	324.20

Sec. 61—McClanahan, West Virginia, Distributing Plant

Pipe—				
6,007 feet, 2 inch	@	$ .22	$	1,321.54
4 feet 8¼ casing	@	1.18		4.72
Regulators—				
1—2 inch low pressure	@	$ 51.00	$	51.00
1—1 inch medium pressure	@	25.00		25.00
1—1 inch high pressure	@	25.00		25.00

Regulator buildings			
1—6'x14' frame	@	$ 35.00	$ 35.00
Services			
11—1¼ inch	@	$ 7.88	$ 86.68
Meters			
12 Tobey 1	@	$ 8.50	$ 102.00
Total for McClanahan, West Virginia, distributing plant			$ 1,650.94

Sec. 62—Hurricane, West Virginia, Distributing Plant

Pipe			
11,470 feet, 2 inch	@	$ .22	$ 2,523.40
4,556 feet, 3 inch	@	.39	1,776.84
4 feet, 4 inch	@	.55	2.20
Regulators			
1—3 inch low pressure	@	$ 88.00	$ 88.00
1—2 inch high pressure	@	51.00	51.00
Regulator buildings			
1—6'x10' frame	@	$ 35.00	$ 35.00
Services			
1—1 inch	@	$ 7.88	$ 7.88
167—1¼ inch	@	7.88	1,315.96
Meters			
26 Tobey A	@	$ 8.00	$ 208.00
164 Tobey 1	@	8.50	1,394.00
2 Ironcase 5-B	@	8.00	16.00
Headquarters			
Tools and equipment	@	$100.00	$ 100.00
Total for Hurricane, West Virginia, distributing plant			$ 7,518.28

Sec. 63—Ceredo, West Virginia, Distributing Plant

Pipe			
5,690 feet, 2 inch	@	$ .22	$ 1,251.80
4,489 feet, 3 inch	@	.39	1,750.71
2,617 feet, 4 inch	@	.55	1,439.35
37 feet, 6 inch	@	.80	29.60
2,692 feet, 8 inch	@	1.20	3,230.40
162 feet, 10 inch	@	1.50	243.00

Regulators			
1—1¼ inch low pressure	@	$ 25.00	$ 25.00
1—4 inch low pressure	@	127.00	127.00
Regulator buildings			
1—9'6"x10' brick	@	$165.00	$ 165.00
Services			
249—1¼ inch	@	$ 7.88	$ 1,962.12
2—2 inch	@	10.57	21.14
Meters			
24 Tobey A	@	$ 8.00	$ 192.00
155 Keystone 0	@	8.20	1,271.00
3 Keystone 1	@	11.20	33.60
2 Keystone 2	@	14.20	28.40
1 Keystone 3	@	18.00	18.00
23 Ironcase 5-B	@	8.00	184.00
Total for Ceredo, West Virginia, distributing plant			$11,972.12

Sec. 64—**Kenova, West Virginia, Distributing Plant**

Pipe			
21,079 feet 2 inch	@	$ .22	$ 4,637.38
14,397 feet 3 inch	@	.39	5614.83
874 feet 4 inch	@	.55	480.70
580 feet 6 inch	@	.80	464.00
10,148 feet 8 inch	@	1.20	12,177.60
307 feet 10 inch	@	1.50	460.50
Regulators			
1— 1 inch low pressure	@	$ 25.00	$ 25.00
2— 2 inch low pressure	@	51.00	102.00
1— 6"x8" low pressure	@	232.00	232.00
1— 1¼ inch high pressure	@	25.00	25.00
1— 8 inch high pressure	@	260.00	260.00
1—10 inch high pressure	@	350.00	350.00
Regulator buildings			
1— 2'6"x 3' galvanized iron	@	$ 15.00	$ 15.00
1— 8' x10' galvanized iron	@	35.00	35.00
1—14' x20' galvanized iron	@	65.00	65.00
1—12' x15' brick	@	200.00	200.00
1—16' x28' brick	@	250.00	250.00
Services			
535—1¼ inch	@	$ 7.88	$ 4,215.80
2—2 inch	@	10.57	21.14

Meters—			
154 Tobey A	@	$ 8.00	$ 1,232.00
2 Tobey B	@	8.20	16.40
1 Tobey 1	@	8.50	8.50
302 Keystone 0	@	8.20	2,476.40
1 Keystone 2	@	14.20	14.20
1 Keystone 3	@	18.00	18.00
1 Ironclad 1	@	8.20	8.20
1 Ironclad 2	@	13.20	13.20
139 Ironcase 5-B	@	8.00	1,112.00
Total for Kenova, West Virginia, distributing plant			$34,529.85

Sec. 65—Williamson, West Virginia, Distributing Plant

Pipe—			
8,521 feet 2 inch	@	$ .22	$ 1,874.62
2,094 feet 3 inch	@	.39	816.66
40,701 feet 4 inch	@	.55	22,385.55
5,004 feet 6 inch	@	.80	4,003.20
176 feet 10 inch	@	1.50	264.00
Regulators—			
2—2 inch low pressure	@	$ 51.00	$ 102.00
1—3 inch low pressure	@	88.00	88.00
4—4 inch low pressure	@	127.00	508.00
1—6 inch low pressure	@	232.00	232.00
1—6 inch high pressure	@	232.00	232.00
Regulator buildings—			
1— 6' x 9'6' galvanized iron	@	$ 30.00	$ 30.00
1— 5' x 6' frame	@	25.00	25.00
1— 5' x15'6' frame	@	25.00	25.00
1— 6' x 8' frame	@	30.00	30.00
1— 9' x14' frame	@	35.00	35.00
1— 9'4"x11'8" brick	@	130.00	130.00
1—10' x11' brick	@	165.00	165.00
1—11' x12' brick	@	165.00	165.00
Services—			
10—1 inch	@	$ 7.88	$ 78.80
948—1¼ inch	@	7.88	7,470.24
27—2 inch	@	10.57	285.39
24—3 inch	@	16.00	384.00
Meters—			
287 Tobey A	@	$ 8.00	$ 2,296.00
1 Tobey B	@	8.20	8.20
1 Tobey 4	@	50.00	50.00
1 Tobey 5	@	83.00	83.00
788 Ironclad 1	@	8.20	6,461.60

16 Ironclad 2	@	13.20	211.20
7 Ironclad 4	@	42.00	294.00
2 Keystone 2	@	14.20	28.40
4 Keystone 3	@	18.00	72.00
125 Ironcase 5-B	@	8.00	1,000.00
1 Westinghouse Proportional 5-M	@	179.00	179.00
1 Westinghouse Proportional 10-M	@	208.00	208.00
1 Westinghouse Proportional 15-M	@	244.00	244.00
Headquarters—			
Office building and shop	@	$5,000.00	$ 5,000.00
Office equipment	@	200.00	200.00
Tools and equipment	@	600.00	600.00
Total for Williamson, West Virginia, distributing plant			$56,264.86

Sec. 66—**Logan, West Virginia, Distributing Plant**

Pipe—			
4,556 feet 2 inch	@	$ .22	$ 1,002.32
1,961 feet 3 inch	@	.39	764.79
9,489 feet 4 inch	@	.55	5,218.95
5,329 feet 6 inch	@	.80	4,263.20
110 feet 8¼ inch casing	@	1.18	129.80
Regulators—			
2—2 inch low pressure	@	$ 51.00	$ 102.00
1—6 inch low pressure	@	232.00	232.00
1—6 inch high pressure	@	232.00	232.00
Regulator buildings—			
1—10'x12' galvanized iron	@	$ 45.00	$ 45.00
1— 6'x 8' frame	@	30.00	60.00
1— 8'x10' brick	@	120.00	120.00
Services—			
12—1 inch	@	$ 7.88	$ 94.56
417—1¼ inch	@	7.88	3,285.96
11—2 inch	@	10.57	116.27
Meters—			
193 Tobey A	@	$ 8.00	$ 1,544.00
7 Tobey B	@	8.20	57.40
1 Tobey 3	@	17.70	17.70
360 Ironclad 1	@	8.20	2,952.00
13 Ironclad 2	@	13.20	171.60
150 Ironcase 5-B	@	8.00	1,200.00
Headquarters—			
Tools and equipment	@	$500.00	500.00
Total for Logan, West Virginia, distributing plant			$22,109.55

Sec. 67—Cherry Tree Bottom, West Virginia, Distributing Plant

Pipe—			
146 feet 2 inch	60	$ .22	$ 32.12
2,993 feet 3 inch	60	.39	1,167.27
Regulators—			
1—3 inch low pressure	60	$ 88.00	$ 88.00
Regulator buildings—			
1—8'x10' galvanized iron	60	$ 35.00	$ 35.00
Services—			
6—1 inch	60	$ 7.88	47.28
39—1¼ inch	60	7.88	307.32
Meters—			
9 Tobey A	60	$ 8.00	$ 72.00
22 Ironclad 1	60	8.20	180.40
Total for Cherry Tree Bottom, West Virginia, distributing plant			$ 1,929.39

Sec. 68—East Lynn, West Virginia, Distributing Plant

Pipe—			
7,506 feet 2 inch	60	$ .22	$ 1,651.32
44 feet 3 inch	60	.39	17.16
Regulators—			
1—2 inch low pressure	60	$ 51.00	$ 51.00
1—2 inch high pressure	60	51.00	51.00
Regulator buildings—			
1—10'x12' galvanized iron	60	$ 45.00	$ 45.00
Services—			
63—1¼ inch	60	$ 7.88	$ 496.44
Meters—			
49 Tobey A	60	$ 8.00	$ 392.00
3 Ironcase 5-B	60	8.00	24.00
Headquarters—			
Tools and equipment	60	$ 20.00	$ 20.00
Total for East Lynn, West Virginia, distributing plant			$ 2,747.92

Sec. 69—Barboursville, West Virginia, Distributing Plant

Pipe—			
14,657 feet 2 inch	@ $ .22		$ 3,224.54
2,033 feet 3 inch	@ .39		792.87
4,622 feet 4 inch	@ .55		2,542.10
34 feet 6 inch	@ .80		27.20
Regulators—			
3—2 inch low pressure	@ $ 51.00	$	153.00
1—4 inch low pressure	@ 127.00		127.00
1—3 inch high pressure	@ 88.00		88.00
Regulator Buildings—			
1—12'x14'6" galvanized iron	@ 45.00		45.00
1—16'x20' galvanized iron	@ 65.00		65.00
Services—			
227—1¼ inch	@ 7.88		1,788.76
4—2 inch	@ 10.57		42.28
Meters—			
43 Tobey A	@ 8.00		344.00
207 Tobey 1	@ 8.50		1,759.50
2 Tobey 2	@ 10.50		21.00
1 Tobey 4	@ 50.00		50.00
3 Ironclad 1	@ 8.20		24.60
1 Ironclad 4	@ 42.00		42.00
1 Keystone 2	@ 14.20		14.20
2 Keystone 3	@ 18.00		36.00
5 Ironcase 5-B	@ 8.00		40.00
1 Wylie 15-M	@ 260.00		260.00
1 Westinghouse Proportional 6-M	@ 190.00		190.00
1 Westinghouse Proportional 15-M	@ 244.00		244.00
Total for Barboursville, West Virginia, distributing plant			$11,921.05

Sec. 70—Kermit, West Virginia, Distributing Plant

Pipe—			
13,216 feet 2 inch	@ $ .22	$	2,907.52
472 feet 3 inch	@ .39		184.08
1,807 feet 4 inch	@ .55		993.85
104 feet 6 inch	@ .80		83.20
Regulators—			
1—3 inch low pressure	@ $ 88.00	$	88.00
1—2 inch high pressure	@ 51.00		51.00
Regulator Buildings—			
1—8'x10' sheet iron	@ $ 35.00	$	35.00

Services			
10—1 inch	@	$ 7.88	$ 78.80
131—1¼ inch	@	7.88	1,032.28
1—2 inch	@	10.57	10.57
Meters			
105 Tobey A	@	$ 8.00	$ 840.00
12 Tobey 1	@	8.50	102.00
31 Keystone 0	@	8.20	254.20
1 Keystone 2	@	14.20	14.20
46 Ironcase 5-B	@	8.00	368.00
4 Ironclad 1	@	8.20	32.80
Headquarters			
Tools	@	$200.00	$ 200.00
Total for Kermit, West Virginia, distributing plant			$ 7,275.50

Sec. 71—**Fort Gay, West Virginia, Distributing Plant**

Pipe			
4,923 feet 2 inch	@	$ .22	$ 1,083.06
2,111 feet 3 inch	@	.39	823.29
1,783 feet 4 inch	@	.55	980.65
42 feet 6⅝ inch casing	@	.78	32.76
Regulators			
1—3 inch high pressure	@	$ 88.00	$ 88.00
1—4 inch low pressure	@	127.00	127.00
Regulator Buildings			
1—12'x12' sheet iron	@	$ 45.00	$ 45.00
Services			
1—1 inch	@	$ 7.88	$ 7.88
104—1¼ inch	@	7.88	819.52
Meters			
29 Tobey A	@	$ 8.00	$ 232.00
89 Tobey 1	@	8.50	756.50
Total for Fort Gay, West Virginia, distributing plant			$ 4,995.66

Sec. 72—**Ona, West Virginia, Distributing Plant**

Pipe			
811 feet 2 inch	@	$ .22	$ 178.42
Regulators			
1—2" low pressure	@	$ 51.00	$ 51.00
1—1" high pressure	@	25.00	25.00

Regulator Buildings

1—3'x3' galvanized iron	@	$ 15.00	$ 15.00
1—4'x4' galvanized iron	@	20.00	20.00

Services

32—1¼ inch	@	$ 7.88	$ 252.16

Meters

7 Tobey A	@	$ 8.00	$ 56.00
26 Tobey 1	@	8.50	221.00
4 Ironclad 1	@	8.20	32.80
1 Ironcase 5-B	@	8.00	8.00

Total for Ona, West Virginia, distributing plant $ 859.38

Sec. 73—**Culloden, West Virginia, Distributing Plant**

Pipe

4,365 feet 2 inch	@	$ .22	$ 960.30

Regulators

1—2-inch low pressure	@	$ 51.00	$ 51.00
1—1¼ inch high pressure	@	25.00	25.00

Regulator Buildings

1—8'x8' galvanized iron	@	$ 35.00	$ 35.00

Services

1—1 inch	@	$ 7.88	$ 7.88
44—1¼ inch	@	7.88	346.72

Meters

2 Tobey A	@	$ 8.00	$ 16.00
43 Tobey 1	@	8.50	365.50

Total for Culloden, West Virginia, distributing plant $ 1,807.40

Sec. 74—**Clendenin, West Virginia, Distributing Plant**

Pipe

26,865 feet 2 inch	@	$ .22	$ 5,910.30
5,063 feet 3 inch	@	.39	1,974.57
6,113 feet 4 inch	@	.55	3,362.15
3 feet 6 inch	@	.80	2.40

Regulators

1—2 inch low pressure	@	$ 51.00	$ 51.00
2—3 inch low pressure	@	88.00	176.00
1—2 inch high pressure	@	51.00	51.00

Regulator Buildings—			
1—6'x 9' galvanized iron	60	$ 30.00	$ 30.00
1—8'x 8' galvanized iron	60	35.00	35.00
1—8'x18' galvanized iron	60	35.00	35.00
1—8'x12' frame	60	35.00	35.00
Services—			
268—1¼ inch	60	$ 7.88	$ 2,111.84
2—2 inch—	60	10.57	21.14
Meters—			
4 Equitable 1	60	$ 8.00	$ 32.00
22 Equitable 2	60	8.20	180.40
1 Equitable 6	60	15.20	15.20
13 Ironclad 1	60	8.20	106.60
13 Keystone 0	60	8.20	106.60
214 Tobey A	60	8.00	1,712.00
67 Tobey 1	60	8.50	569.50
2 Tobey 2	60	10.50	21.00
1 Tobey 3	60	17.70	17.70
2 Tobey 4	60	50.00	100.00
1 Tobey 5	60	83.00	83.00
45 Emco 0	60	7.20	324.00
41 Ironcase 5-B	60	8.00	328.00
1 Westinghouse 25	60	$ 85.00	$ 85.00
1 Westinghouse Proportional 5-M	60	179.00	179.00
Headquarters—			
Tools and equipment	60	$ 1,000.00	$ 1,000.00
Total for Clendenin, West Virginia, distributing plant			$18,655.40

Sec. 75—Spencer, West Virginia, Distributing Plant

Pipe—			
31,479 feet 2 inch	60	$ .22	$ 6,925.38
19,744 feet 3 inch	60	.39	7,700.16
4,446 feet 4 inch	60	.55	2,445.30
89 feet 6 inch	60	.80	71.20
Regulators—			
1—1 inch low pressure	60	$ 25.00	$ 25.00
3—2 inch low pressure	60	51.00	513.00
3—3 inch low pressure	60	88.00	264.00
3—3 inch high pressure	60	88.00	264.00
1—4 inch low pressure	60	127.00	127.00
1—4 inch high pressure	60	127.00	127.00

Regulator Buildings—			
2—6'x12' galvanized iron	@	$ 35.00	$ 70.00
2—6'x14' galvanized iron	@	35.00	70.00
4—8'x14' galvanized iron	@	35.00	140.00
Services—			
12—1 inch	@	$ 7.88	$ 94.56
657—1¼ inch	@	7.88	5,177.16
5—2 inch	@	10.57	52.85
Meters—			
240 Tobey 1	@	$ 8.50	$ 2,040.00
1 Tobey 2	@	10.50	10.50
160 Tobey A	@	8.00	1,280.00
5 Equitable 6	@	15.20	76.00
88 Equitable 2	@	8.20	721.60
258 Keystone 0	@	8.20	2,115.60
4 Keystone 2	@	14.20	56.80
197 Ironcase 5-B	@	8.00	1,576.00
3 Wylie 10-M	@	236.00	708.00
Headquarters—			
Tools and equipment	@	$ 2,000.00	$ 2,000.00
Total for Spencer, West Virginia, distributing plant			$34,291.11

Sec. 76—Silverton, West Virginia, Distributing Plant

Pipe—			
5,977 feet 2 inch	@	$ .22	$ 1,319.34
Regulators—			
1—1 inch low pressure	@	$ 25.00	$ 25.00
1—2 inch low pressure	@	51.00	51.00
1—2 inch high pressure	@	51.00	51.00
Regulator Buildings—			
3—8'x8' galvanized iron	@	$ 35.00	$ 105.00
Services—			
23—1¼ inch	@	$ 7.88	$ 181.24
Meters—			
21 Tobey 1	@	$ 8.50	$ 178.50
1 Tobey 4	@	50.00	50.00
Total for Silverton, West Virginia, distributing plant			$ 1,961.08

Sec. 77—**Ravenswood, West Virginia, Distributing Plant**

Pipe			
2,752 feet 2 inch	@	$ .22	$ 605.44
5,936 feet 3 inch	@	.39	2,315.04
11,922 feet 4 inch	@	.55	6,557.10
Regulators			
1—1 inch low pressure	@	$ 25.00	$ 25.00
2—4 inch low pressure	@	127.00	254.00
1—4 inch high pressure	@	127.00	127.00
Regulator Buildings			
2—8'x10' galvanized iron	@	$ 35.00	$ 70.00
2—10'x12' galvanized iron	@	45.00	90.00
Services			
5—1 inch	@	$ 7.88	$ 39.40
360—1¼ inch	@	7.88	2,836.80
3—2 inch	@	10.57	31.71
Meters			
86 Tobey A	@	$ 8.00	$ 688.00
317 Tobey 1	@	8.50	2,694.50
8 Tobey 2	@	10.50	84.00
3 Tobey 4	@	50.00	150.00
Headquarters			
Tools and equipment	@	$600.00	$ 600.00
Total for Ravenswood, West Virginia, distributing plant			$17,167.99

Sec. 78—**Sandyville, West Virginia, Distributing Plant**

Pipe			
4,195 feet 2 inch	@	$ .22	$ 922.90
73 feet 4 inch	@	.55	40.15
Regulators			
1—2 inch low pressure	@	$ 51.00	$ 51.00
1—2 inch high pressure	@	51.00	51.00
Regulator Buildings			
1—8'x 8' galvanized iron	@	$ 35.00	$ 35.00
1—8'x10' galvanized iron	@	35.00	35.00
Services			
2—1 inch	@	7.88	15.76
43—1¼ inch	@	7.88	338.84

Meters				
35 Tobey 1	@	$ 8.50	$	297.50
1 Tobey 4	@	50.00		50.00
Total for Sandyville, West Virginia, distributing plant			$	1,837.15

Sec. 79—**Gandeeville, West Virginia, Distributing Plant**

Pipe				
3,161 feet 2 inch	@	$ .22	$	695.42
Regulators				
1—2 inch low pressure	@	$ 51.00	$	51.00
1—2 inch high pressure	@	51.00		51.00
Regulator Buildings				
2—8'x12' galvanized iron	@	$ 35.00	$	70.00
Services				
29—1¼ inch	@	$ 7.88	$	228.52
Meters				
1 Tobey 1	@	$ 8.50	$	8.50
20 Equitable 2	@	8.20		164.00
Total for Gandeeville, West Virginia, distributing plant			$	1,268.44

Sec. 80—**Reedy, West Virginia, Distributing Plant**

Pipe				
8,194 feet 2 inch	@	$ .22	$	1,802.68
3,020 feet 3 inch	@	.39		1,177.80
Regulators				
1—2 inch low pressure	@	$ 51.00	$	51.00
1—3 inch low pressure	@	88.00		88.00
1—3 inch high pressure	@	88.00		88.00
Regulator Buildings				
2—11'x20' galvanized iron	@	$ 65.00	$	130.00
Services				
111—1¼ inch	@	$ 7.88	$	874.68
Meters				
1 Equitable 6	@	$ 15.20	$	15.20
2 Tobey A	@	8.00		16.00
106 Tobey 1	@	8.50		901.00
1 Tobey 2	@	10.50		10.50
Total for Reedy, West Virginia, distributing plant			$	5,154.86

Sec. 81—**Cedarville, West Virginia, Distributing Plant**

Regulators			
1—1 inch low pressure	60	$ 25.00	$ 25.00
1—2 inch low pressure	60	51.00	51.00
1—1 inch high pressure	60	25.00	25.00
Meters			
20 Ironcase 5-B	60	$ 8.00	$ 160.00
Total for Cedarville, West Virginia, distributing plant			$ 261.00

Sec. 82—**Buff Lick, West Virginia, Distributing Plant**

Pipe			
770 feet 2 inch	60	$ .22	$ 169.40
27 feet 4 inch	60	.55	14.85
Regulators			
2—2 inch high pressure	60	$ 51.00	$ 102.00
Regulator buildings			
1—8'x12' galvanised iron	60	$ 35.00	$ 35.00
Meters			
14 Tobey 1	60	$ 8.50	$ 119.00
1 Tobey 2	60	10.50	10.50
Total for Buff Lick, West Virginia, distributing plant			$ 450.75

Sec. 83—**Big Sandy, West Virginia, Distributing Plant**

Regulators			
1—1 inch low pressure	60	$ 25.00	$ 25.00
1—1½ inch low pressure	60	25.00	25.00
1—1 inch high pressure	60	25.00	25.00
Meters			
5 Ironcase 5-B	60	$ 8.00	$ 40.00
Total for Big Sandy, West Virginia, distributing plant			$ 115.00

Sec. 84—**Quick, West Virginia, Distributing Plant**

Pipe			
1,214 feet 2 inch	60	$ .22	$ 267.08
63 feet 3 inch	60	.39	24.57

Regulators				
1—2 inch low pressure	@	$ 51.00	$	51.00
1—2 inch high pressure	@	51.00		51.00
Regulator buildings				
1—6'x12' frame	@	$ 30.00	$	30.00
Meters				
22 Tobey A	@	$ 8.00	$	176.00
1 Ironcase 5-B	@	8.00		8.00
Total for Quick, West Virginia, distributing plant			$	607.65

Sec. 85—**Stoffle, West Virginia, Distributing Plant**

Pipe				
33 feet 2 inch	@	$ .22	$	7.26
Regulators				
3—2 inch low pressure	@	$ 51.00	$	153.00
Regulator buildings				
1—10'6"x5' galvanized iron	@	$ 30.00	$	30.00
Meters				
9 Tobey A	@	$ 8.00	$	72.00
4 Tobey 1	@	8.50		34.00
1 Emco 0	@	7.20		7.20
2 Ironcase 5-B	@	8.00		16.00
Total for Stoffle, West Virginia, distributing plant			$	319.46

Sec. 86—**Ironton, Ohio, Distributing Plant**

Pipe				
35,665 feet 2 inch	@	$ .22	$	7,84 .30
48,099 feet 3 inch	@	.39		18,758.61
50,743 feet 4 inch	@	.55		27,908.65
24,763 feet 6 inch	@	.80		19,810.40
12,867 feet 8 inch	@	1.20		15,440.40
256 feet 10 inch	@	1.50		384.00
117 feet 6¼ inch casing	@	.72		84.24
Regulators				
7—1 inch low pressure	@	$ 25.00	$	175.00
1—1x1½ inch low pressure	@	25.00		25.00
6—2 inch low pressure	@	51.00		306.00
1—3 inch low pressure	@	88.00		88.00
1—3x4 inch low pressure	@	88.00		176.00
5—4 inch low pressure	@	127.00		635.00
1—4x6 inch low pressure	@	127.00		127.00
1—8 inch low pressure	@	260.00		260.00

Regulator buildings				
1— 2'x 2' frame	@	$ 10.00	$	10.00
3— 2'x 3' frame	@	10.00		30.00
1— 2'x 4' frame	@	10.00		10.00
1— 2'x 5' frame	@	10.00		10.00
1— 3'x 3' frame	@	15.00		15.00
1— 3'x 4' frame	@	15.00		15.00
1— 3'x 5' frame	@	15.00		15.00
1— 4'x 9' frame	@	20.00		20.00
1— 6'x 6' frame	@	30.00		30.00
1— 8'x 8' frame	@	35.00		35.00
1— 6'x 6' brick	@	100.00		100.00
1— 8'x12' brick	@	120.00		120.00
1— 9'x 9' brick	@	130.00		130.00
2—12'x12' brick	@	200.00		400.00
1—15'x40' brick	@	250.00		250.00
1— 3'x 3' sheet iron	@	15.00		15.00
1— 4'x 6' sheet iron	@	20.00		20.00
1— 6'x 6' sheet iron	@	35.00		35.00
1— 6'x 8' sheet iron	@	35.00		35.00
1— 8'x10' sheet iron	@	35.00		35.00
Services				
3,190—1¼ inch	@	$ 7.88	$	25,137.20
57—1 inch	@	7.88		449.16
15—2 inch	@	10.57		158.55
Meters				
565 Ironclad 1	@	$ 8.20	$	4,633.00
1,188 Keystone 0	@	8.20		9,741.60
80 Keystone 1	@	11.20		896.00
19 Keystone 2	@	14.20		269.80
14 Keystone 3	@	18.00		252.00
1,028 Tobey A	@	8.00		8,224.00
24 Tobey B	@	8.20		196.80
6 Tobey 1	@	8.50		51.00
1 Tobey 3	@	17.70		17.70
7 Tobey 4	@	50.00		350.00
11 Emco 0	@	7.20		79.20
5 Westinghouse Proportional 5-M	@	179.00		895.00
1 Westinghouse Proportional 6-M	@	190.00		190.00
2 Westinghouse Proportional 10-M	@	208.00		416.00
1 Westinghouse Proportional 15-M	@	244.00		244.00
2 Westinghouse Proportional 30-M	@	355.00		710.00
527 Ironcase 5-B	@	8.00		4,216.00
Headquarters				
Tools and equipment	@	$3,000.00	$	3,000.00
Office equipment	@	1,400.00		1,400.00
Total for Ironton, Ohio, distributing plant				**$154,881.61**

Sec. 87—**Sciotoville, Ohio, Distributing Plant**

Pipe				
3,686 feet 2 inch	@	$ .22	$	810.92
15,799 feet 3 inch	@	.39		6,161.61
13,818 feet 4 inch	@	.55		7,599.90
32 feet 6 inch	@	.80		25.60
38 feet 6¼ inch casing	@	.72		27.36
Regulators				
1—2 inch low pressure	@	$ 51.00	$	51.00
1—2x3 inch low pressure	@	51.00		51.00
1—4 inch low pressure	@	127.00		127.00
1—4x6 inch low pressure	@	127.00		127.00
1—1¼ inch high pressure	@	25.00		25.00
Regulator buildings				
1—4'x 4' galvanized iron	@	$ 20.00	$	20.00
1—4'x 6' galvanized iron	@	20.00		20.00
1—6'x 6' galvanized iron	@	30.00		30.00
1—6'x 8' galvanized iron	@	30.00		30.00
1—6'x 9' galvanized iron	@	30.00		30.00
1—8'x 8' brick	@	120.00		120.00
1—10'x20' brick	@	165.00		165.00
Services				
533—1¼ inch	@	$ 7.88	$	4,200.04
5—2 inch	@	10.57		52.85
1—1 inch	@	7.88		7.88
Meters				
240 Tobey A	@	$ 8.00	$	1,920.00
1 Tobey 1	@	8.50		8.50
167 Ironclad 1	@	8.20		1,369.40
76 Keystone 0	@	8.20		623.20
2 Keystone 1	@	11.20		22.40
1 Keystone 2	@	14.20		14.20
1 Keystone 3	@	18.00		18.00
20 Emco 0	@	7.20		144.00
47 Ironcase 5-B	@	8.00		376.00
Total for Sciotoville, Ohio, distributing plant				$24,353.86

Sec. 88—**Wheelersburg, Ohio, Distributing Plant**

Pipe				
2,722 feet 2 inch	@	$ .22	$	598.84
8,797 feet 3 inch	@	.39		3,430.83
Regulators				
1—2 inch low pressure	@	$ 51.00	$	51.00
1—3 inch low pressure	@	88.00		88.00
1—3 inch high pressure	@	88.00		88.00

Regulator buildings				
1—4'x 5' galvanized iron		$ 20.00	$	20.00
1—12'x12' brick		200.00		200.00
Services				
145—1¼ inch		$ 7.88	$	1,142.60
1—1 inch		7.88		7.88
Meters				
43 Tobey A		$ 8.00	$	344.00
64 Tobey 1		8.50		544.00
14 Ironclad 1		8.20		114.80
10 Keystone 0		8.20		82.00
1 Keystone 1		8.20		8.20
1 Keystone 2		14.20		14.20
17 Ironcase 5-B		12.00		204.00
Total for Wheelersburg, Ohio, distributing plant			$	6,930.47

Sec. 89—Coal Grove, Ohio, Distributing Plant

Pipe				
1,397 feet 2 inch		$ .22	$	307.34
3,550 feet 3 inch		.39		1,384.50
5,647 feet 4 inch		.55		3,105.85
Regulators				
2—1 inch low pressure		$ 25.00	$	50.00
1—1x1½ inch low pressure		25.00		25.00
1—3 inch low pressure		88.00		88.00
1—3 inch high pressure		88.00		88.00
1—8 inch high pressure		260.00		260.00
Regulator buildings				
1—2'x 2' frame		$ 10.00	$	10.00
2—3'x 5' frame		15.00		30.00
1—6'x 6' sheet iron		35.00		35.00
2—10'x10' brick		165.00		165.00
Services				
170—1¼ inch		$ 7.88	$	1,339.60
1—1 inch		7.88		7.88
Meters				
35 Tobey A		$ 8.00	$	280.00
100 Tobey 1		8.50		850.00
3 Ironclad 1		8.20		24.60
16 Ironcase 5-B		12.00		192.00
Total for Coal Grove, Ohio, distributing plant			$	8,407.77

Sec. 90—**New Boston, Ohio, Distributing Plant**

Pipe—				
4,930 feet 2 inch	@	$ .22	$	1,084.60
21,898 feet 3 inch	@	.39		8,540.22
9,844 feet 4 inch	@	.55		5,414.20
5,366 feet 6 inch	@	.80		4,292.80
58 feet 8 inch	@	1.20		69.60
Regulators—				
1— 1x1¼ inch low pressure	@	$ 25.00	$	25.00
4— 3 inch low pressure	@	88.00		352.00
2— 3x4 inch low pressure	@	88.00		176.00
1— 4x6 inch low pressure	@	127.00		127.00
1— 6 inch low pressure	@	232.00		232.00
1— 8 inch low pressure	@	260.00		260.00
1—10 inch low pressure	@	350.00		350.00
5— 3 inch high pressure	@	88.00		440.00
1— 6 inch high pressure	@	232.00		232.00
1—10 inch high pressure	@	350.00		350.00
Regulator buildings—				
1— 3'x 3' frame	@	$ 15.00	$	15.00
1— 4'x 5' galvanized iron	@	20.00		20.00
1— 4'x 9' galvanized iron	@	20.00		20.00
1— 6'x 6' galvanized iron	@	30.00		30.00
1— 6'x 8' galvanized iron	@	30.00		30.00
1— 6'x10' galvanized iron	@	30.00		30.00
1— 8'x 8' galvanized iron	@	35.00		35.00
2— 8'x12' galvanized iron	@	35.00		70.00
1—10'x16' galvanized iron	@	45.00		45.00
1—20'x30' galvanized iron	@	65.00		65.00
1— 9'x11' brick	@	130.00		130.00
1—10'x10' brick	@	165.00		165.00
1—12'x16' brick	@	200.00		200.00
Services—				
868—1¼ inch	@	$ 7.88	$	6,839.84
10— 1 inch	@	7.88		78.80
7— 2 inch	@	10.57		73.99
Meters—				
526 Tobey A	@	$ 8.00	$	4,208.00
4 Tobey 1	@	8.50		34.00
2 Tobey 4	@	50.00		100.00
344 Ironclad 1	@	8.20		2,820.80
65 Keystone 0	@	8.20		533.00
3 Keystone 1	@	11.20		33.60
4 Keystone 2	@	14.20		56.80
4 Keystone 3	@	18.00		72.00
19 Emco 0	@	7.20		136.80
119 Ironcase 5-B	@	12.00		1,428.00
1 Westinghouse Proportional 50-M	@	425.00		425.00

Headquarters			
Lot and building	@	$2,000.00	$ 2,000.00
Office equipment	@	200.00	200.00
Tools and equipment	@	1,500.00	1,500.00
Total for New Boston, Ohio, distributing plant			$41,361.05

Sec. 91—Corryville, Ohio, Distributing Plant

Pipe			
2,855 feet 2 inch	@	$ .22	$ 628.10
6,281 feet 3 inch	@	.39	2,449.59
328 feet 6 inch	@	.80	262.40
Regulators			
1—2 inch low pressure	@	$ 51.00	$ 51.00
Regulator buildings			
1—8'x10' galvanized iron	@	$ 35.00	$ 35.00
Services			
44—1¼ inch	@	$ 7.88	$ 346.72
Meters			
45 Tobey A	@	$ 8.00	$ 360.00
Total for Corryville, Ohio, distributing plant			$ 4,132.81

Sec. 92—Bradrick, Ohio, Distributing Plant

Pipe			
5,238 feet 2 inch	@	$ .22	$ 1,152.36
3,925 feet 3 inch	@	.39	1,530.75
Regulators			
1—2 inch low pressure		$ 51.00	$ 51.00
Regulator Buildings			
1—8'x10' galvanized iron	@	$ 35.00	$ 35.00
Services			
54—1¼ inch	@	$ 7.88	$ 425.52
Meters			
35 Tobey A	@	$ 8.00	$ 280.00
Total for Bradrick, Ohio, distributing plant			$ 3,474.63

Sec. 93—Proctorville, Ohio, Distributing Plant

Pipe—			
581 feet 2 inch	@	$ .22	$ 127.82
14,412 feet 3 inch	@	.39	5,620.68
4 feet 4 inch	@	.55	2.20
Regulators—			
1—3 inch low pressure	@	$ 88.00	$ 88.00
Regulator Buildings—			
1—12'x16' galvanized iron	@	$ 65.00	$ 65.00
Services—			
190—1¼ inch	@	$ 7.88	$ 1,497.20
Meters—			
181 Tobey A	@	$ 8.00	$ 1,448.00
2 Tobey 2	@	10.50	21.00
Total for Proctorville, Ohio, distributing plant			$ 8,869.90

Sec. 94—Chesapeake, Ohio, Distributing Plant

Pipe—			
5,283 feet 2 inch	@	$ .22	$ 1,162.26
7,067 feet 3 inch	@	.39	2,756.13
5,284 feet 4 inch	@	.55	2,906.20
Regulators—			
1—2 inch low pressure	@	$ 51.00	$ 51.00
1—4 inch low pressure	@	127.00	127.00
Regulator Buildings—			
1—9'x11' galvanized iron	@	$ 35.00	$ 35.00
1—10'x12' galvanized iron	@	45.00	45.00
Services—			
195—1¼ inch	@	$ 7.88	$ 1,536.60
Meters—			
190 Tobey A	@	$ 8.00	$ 1,520.00
1 Tobey 2	@	10.50	10.50
Total for Chesapeake, Ohio, distributing plant			$10,149.69

Sec. 95—Ashland, Kentucky, Distributing Plant

Pipe			
57,657 feet 2 inch	@	$ .22	$12,684.54
84,082 feet 3 inch	@	.39	32,791.98
60,395 feet 4 inch	@	.55	33,217.25
29,455 feet 6 inch	@	.80	23,564.00
8,044 feet 8 inch	@	1.20	9,652.80
177 feet 10 inch casing	@	1.50	265.50

Regulators

2	1	' low pressure	@	$ 25.00	$ 50.00
1	1 x1½	" low pressure	@	25.00	25.00
1	1¼x1½	" low pressure	@	30.00	30.00
4	2	' low pressure	@	51.00	204.00
11	3	' low pressure	@	88.00	968.00
3	3 x4	' low pressure	@	88.00	264.00
3	4	' low pressure	@	127.00	381.00
1	6	' low pressure	@	232.00	232.00
1	8	' low pressure	@	260.00	260.00
1	6 x8	' low pressure	@	232.00	232.00
1	1	' high pressure	@	25.00	25.00
2	2	' high pressure	@	51.00	102.00
2	3	' high pressure	@	88.00	176.00
2	6	' high pressure	@	232.00	464.00
1	10	' high pressure	@	350.00	350.00

Regulator Buildings

1	3'x 3'	frame	@	$ 15.00	$ 15.00
1	4'x 4'	frame	@	20.00	20.00
3	6'x 6'	frame	@	30.00	90.00
1	12'x12'	frame	@	45.00	45.00
1	3'x 3'	sheet iron	@	15.00	15.00
2	3'x 5'	sheet iron	@	20.00	40.00
1	4'x 4'	sheet iron	@	20.00	20.00
1	5'x 5'	sheet iron	@	25.00	25.00
1	4'x 5'	sheet iron	@	20.00	20.00
1	5'x 7'	sheet iron	@	25.00	25.00
1	6'x 6'	sheet iron	@	35.00	35.00
1	5'x 5'	sheet iron	@	25.00	25.00
1	6'x 6'	sheet iron	@	35.00	35.00
1	6'x10'	sheet iron	@	35.00	35.00
1	8'x 8'	sheet iron	@	35.00	35.00
1	8'x10'	sheet iron	@	35.00	35.00
1	10'x10'	sheet iron	@	45.00	45.00
1	10'x12'	sheet iron	@	45.00	45.00
1	12'x14'	sheet iron	@	45.00	45.00
1	8'x 8'	brick	@	120.00	120.00
1	8'x10'	brick	@	140.00	140.00
2	10'x10'	brick	@	165.00	330.00
1	15'x15'	brick	@	250.00	250.00
1	10'x10'	concrete	@	165.00	165.00

Services

1,809	1¼	inch	@	$ 7.88	$30,914.92
39	1½	inch	@	9.20	358.80
20	2	inch	@	10.57	211.40
60	3	inch	@	15.50	930.00
3	4	inch	@	45.00	135.00

Meters

294 Ironclad 1	@	$ 8.20	$ 2,410.80
2 Ironclad 4	@	42.00	84.00
1,293 Keystone 0	@	8.20	10,602.60
58 Keystone 1	@	11.20	649.60
23 Keystone 2	@	14.20	326.60
16 Keystone 3	@	18.00	288.00
2,197 Tobey A	@	8.00	17,576.00
30 Tobey B	@	8.20	246.00
439 Tobey 1	@	8.50	3,731.50
15 Tobey 2	@	10.50	157.50
3 Tobey 4	@	50.00	150.00
1 Tobey 5	@	65.00	65.00
50 Emco O	@	7.20	360.00
480 Ironcase 5-B	@	12.00	5,760.00
8 Westinghouse Proport. 5-M	@	179.00	1,432.00
2 Westinghouse Proport. 10-M	@	208.00	416.00
1 Westinghouse Proport. 15-M	@	244.00	244.00
1 Westinghouse Proport. 20-M	@	271.00	271.00
2 Westinghouse Proport. 30-M	@	355.00	710.00
1 Westinghouse Proport. 40-M	@	425.00	425.00

Headquarters

Office equipment	@	$ 2,700.00	$ 2,700.00
Tools and equipment	@	3,000.00	3,000.00
Total for Ashland, Kentucky, distributing plant			$200,749.79

Sec. 96—Catlettsburg, Kentucky, Distributing Plant

Pipe

23,916 feet 2 inch	@	$ .22	$ 5,261.52
12,430 feet 3 inch	@	.39	4,847.70
17,005 feet 4 inch	@	.55	9,352.75
3,811 feet 6 inch	@	.80	3,048.80
464 feet 8 inch	@	1.20	556.80
143 feet 10 inch	@	1.50	214.50

Regulators

1—2 inch low pressure	@	$ 51.00	$ 51.00
1—3 inch low pressure	@	88.00	88.00
3—4 inch low pressure	@	127.00	381.00
1—6 inch low pressure	@	232.00	232.00
1—3 inch high pressure	@	88.00	88.00
1—4 inch high pressure	@	127.00	127.00

Regulator Buildings				
1— 3½x 3' sheet iron	60	$ 20.00	$	20.00
1— 4 x 6' sheet iron	60	20.00		20.00
1—10 x12' sheet iron	60	45.00		45.00
1—11 x11' brick	60	165.00		165.00
1—12 x12' brick	60	200.00		200.00
Services				
2—1 inch	60	$ 7.88	$	15.76
1,073—1¼ inch	60	$ 7.88	$	8,455.24
2—2 inch	60	10.57		21.14
Meters				
357 Tobey A	60	8.00	$	2,856.00
7 Tobey B	60	8.20		57.40
176 Tobey 1	60	8.50		1,496.00
1 Tobey 2	60	10.50		10.50
211 Ironcase 5-B	60	12.00		2,532.00
45 Ironclad 1	60	8.20		369.00
329 Keystone 0	60	8.20		2,697.80
20 Keystone 1	60	11.20		224.00
2 Keystone 2	60	14.20		28.40
4 Keystone 3	60	18.00		72.00
1 Westinghouse Proportional 10-M	60	208.00		208.00
1 Wylie Proportional 15-M	60	260.00		260.00
Headquarters				
Office building and lot	60	$ 5,000.00	$	5,000.00
Office equipment	60	850.00		850.00
Tools and equipment	60	700.00		700.00
Total for Catlettsburg, Kentucky, distributing plant				$50,522.31

Sec. 97—Burnaugh, Kentucky, Distributing Plant

Pipe				
2,977 feet 2 inch	60	$ .22	$	456.94
Regulators				
1—1½ inch high pressure	60	$ 25.00	$	25.00
1—2 inch low pressure	60	51.00		51.00
Services				
6—1¼ inch	60	$ 7.88	$	47.28
Meters				
1 Tobey A	60	$ 8.00	$	8.00
6 Tobey 1	60	8.50		51.00
Total Burnaugh, Kentucky, distributing plant			$	639.22

Sec. 98—Buchanan, Kentucky, Distributing Plant

Pipe			
848 feet 2 inch	@	$ .22	$ 186.56
Regulators			
1—1½x1 " low pressure	@	$ 25.00	$ 25.00
1—1¼x1½" low pressure	@	25.00	25.00
2—1 " high pressure	@	25.00	50.00
Regulator Buildings			
1—5'x5' sheet iron	@	$ 25.00	$ 25.00
1—6'x6' sheet iron	@	35.00	35.00
Services			
20—1¼ inch	@	$ 7.88	$ 157.60
Meters			
17 Tobey 1	@	$ 8.00	$ 136.00
Total for Buchanan, Kentucky, distributing plant			$ 640.16

Sec. 99—Wolf Creek, Kentucky, Distributing Plant

Pipe			
3,563 feet 2 inch	@	$ .22	$ 783.86
Regulators			
1—2 inch low pressure	@	$ 51.00	$ 51.00
1—1¼ inch high pressure	@	25.00	25.00
Regulator Buildings			
1—8'x10' sheet iron	@	$ 35.00	$ 35.00
Services			
27—1½ inch	@	$ 7.88	$ 212.76
Meters			
16 Tobey A	@	$ 8.00	$ 128.00
12 Keystone 0	@	8.20	98.40
Total for Wolf Creek, Kentucky, distributing plant			$ 1,334.02

Sec. 100—Warfield, Kentucky, Distributing Plant

Pipe			
3,607 feet 2 inch	@	$ .22	$ 793.54
719 feet 3 inch	@	.39	280.41
Regulators			
1—3 inch low pressure	@	$ 88.00	$ 88.00
1—2 inch high pressure	@	51.00	51.00

Regulator Buildings

1—8'x10' sheet iron	@	$ 35.00	$ 35.00
1—10'x12' sheet iron	@	45.00	45.00

Services

2—1 inch	@	$ 7.88	$ 15.76
37—1¼ inch	@	7.88	291.56

Meters

20 Tuboy A	@	$ 8.00	$ 160.00
10 Keystone 1	@	8.50	85.00
10 Keystone 0	@	9.20	92.00
1 Keystone 3	@	18.00	18.00

Total for Warfield, Kentucky, distributing plant $ 1,945.27

Sec. 101—**Louisa, Kentucky, Distributing Plant**

Pipe

16,021 feet 2 inch	@	$ .22	$ 3,524.62
4,956 feet 3 inch	@	.39	1,937.52
5,409 feet 4 inch	@	.55	2,974.95

Regulators

2—6 inch low pressure	@	$127.00	$ 254.00
2—3 inch high pressure	@	88.00	176.00

Regulator Buildings

1—6'x 8' sheet iron	@	$ 35.00	$ 35.00
1—4'x 6' sheet iron	@	20.00	20.00
1—8'x10' sheet iron	@	35.00	35.00

Services

3—1 inch	@	$ 7.88	$ 23.64
600—1¼ inch	@	7.88	4,175.64

Meters

53 Tuboy A	@	$ 8.00	$ 424.00
1 Tuboy B	@	9.20	9.20
661 Tuboy 1	@	9.50	1,425.50
2 Keystone 1	@	11.20	22.40
2 Keystone 2	@	14.20	28.40
3 Keystone 3	@	18.00	54.00
1 Westinghouse Proportional S-M	@	179.00	179.00

Total for Louisa, Kentucky distributing plant $16,297.97

Sec. 102—**Greenup, Kentucky, Distributing Plant**

Pipe				
1,844 feet 2 inch	@	$ .22	$	405.68
481 feet 3 inch	@	.39		187.59
15,009 feet 4 inch	@	.55		8,254.95
120 feet 10 inch	@	1.50		180.00
Regulators				
1—4 inch low pressure	@	$127.00	$	127.00
1—4 inch high pressure	@	127.00		127.00
Regulator Buildings				
1—12'x10'x6" sheet iron	@	$ 45.00	$	45.00
1—10'x12' sheet iron	@	45.00		45.00
Services				
2—1 inch	@	$ 7.88	$	15.76
161—1¼ inch	@	7.88		1,268.68
1—2 inch	@	10.57		10.57
Meters				
3 Tobey A	@	$ 8.00	$	24.00
1 Tobey B	@	8.20		8.20
195 Tobey 1	@	8.50		1,657.50
2 Tobey 2	@	10.50		21.00
1 Tobey 4	@	50.00		50.00
1 Keystone 3	@	18.00		18.00
Total for Greenup, Kentucky, distributing plant				$12,445.93

Sec. 103—**Chinnville, Kentucky Distributing Plant**

Pipe				
3,393 feet 2 inch	@	$ .22		746.46
5,379 feet 3 inch	@	.39		2,097.81
756 feet 4 inch	@	.55		415.80
Regulators				
2—2 inch low pressure	@	$ 51.00	$	102.00
1—3 inch low pressure	@	88.00		88.00
1—1½ inch high pressure	@	25.00		25.00
2—2 inch high pressure	@	51.00		102.00
Regulator buildings				
1—3'x 8' sheet iron	@	$ 20.00	$	20.00
1—8'x10' sheet iron	@	35.00		35.00
1—10'x10' sheet iron	@	45.00		45.00
Services				
65—1¼ inch	@	$ 7.88	$	512.20

Meters			
85 Tobey A	60	$ 8.00	$ 680.00
1 Tobey B	60	8.20	8.20
1 Tobey 2	60	10.50	10.50
12 Ironcase 5-B	60	12.00	144.00
1 Keystone 2	60	14.20	14.20
Total for Chinnville, Kentucky, distributing plant			$ 5,046.17

Sec. 104—Inez, Kentucky, Distributing Plant

Pipe			
3,839 feet 2 inch	60	$ .22	$ 844.58
3,997 feet 3 inch	60	.39	1,172.73
1,121 feet 4 inch	60	.55	616.55
Regulators			
1—4 inch low pressure	60	$127.00	$ 127.00
1—2 inch high pressure	60	51.00	51.00
Services			
2—1 inch	60	$ 7.88	$ 15.76
103—1¼ inch	60	7.88	811.64
Meters			
34 Tobey A	60	$ 8.00	$ 272.00
20 Keystone 0	60	8.20	164.00
2 Keystone 1	60	8.20	16.40
3 Ironcase 5-B	60	11.20	33.60
32 Ironclad 1	60	8.20	426.40
Total for Inez, Kentucky, distributing plant			$ 4,551.66

Sec. 105—Russell, Kentucky, Distributing Plant

Pipe			
12,833 feet 2 inch	60	$ .22	$ 2,823.26
5,529 feet 3 inch	60	.39	2,155.92
4,064 feet 4 inch	60	.55	2,235.20
794 feet 6 inch	60	.80	635.20
21 feet 6¼ inch casing	60	.72	15.12
Regulators			
1—4x6 inch low pressure	60	$127.00	$ 127.00
1—1¼ inch high pressure	60	25.00	25.00
1—3 inch high pressure	60	88.00	88.00
Regulator buildings			
1—4 x 6' sheet iron	60	$ 20.00	$ 20.00
1—3'x 4' sheet iron	60	15.00	15.00
1—4 x 8' sheet iron	60	20.00	20.00
1—10'x14' sheet iron	60	45.00	45.00

Services—				
1—1 inch	@	$ 7.88	$	7.88
393—1¼ inch	@	7.88		3,096.84
2—2 inch	@	10.57		21.14
Meters—				
186 Tobey A	@	$ 8.00	$	1,488.00
6 Tobey B	@	8.20		49.20
205 Keystone 0	@	8.20		1,681.00
2 Keystone 1	@	11.20		22.40
2 Keystone 3	@	18.00		36.00

Total for Russell, Kentucky, distributing plant $14,607.16

Sec. 106—**Distributing Plant Summary**

West Virginia—	
Huntington	$510,706 71
Charleston	525,866 76
South Charleston	41,117 69
Milliken	157 88
Big Creek	1,348 47
Blue Creek	2,007 55
Rich Creek	174 84
East Bank	6,179 56
Coalburg	7,487 02
Chelyan	9,219 28
Jordan's Creek	649 51
Bannister	548 28
Walgrove	465 44
Walton	2,748 98
Kygar	525 88
King Shoals	378 34
Hunt	4,107 95
Simonville	1,900 54
Lock Seven	3,115 62
Gay	2,277 62
Ripley	12,283 30
Poca	3,706 89
Three Mile	699 86
Elk View	1,900 24
Amma	920 86
Newton	324 20
McClanahan	1,650 94
Hurricane	7,518 28
Ceredo	11,972 12
Kenova	34,529 85

West Virginia—Continued		
Williamson	$6,264 86	
Logan	22,109 55	
Cherry Tree Bottom	1,929 39	
East Lynn	2,747 92	
Barboursville	11,921 05	
Kermit	7,275 50	
Fort Gay	4,995 66	
Ona	859 38	
Culloden	1,807 40	
Clendenin	18,655 40	
Spencer	34,291 11	
Silverton	1,961 08	
Ravenswood	17,167 99	
Sandyville	1,837 15	
Gandeeville	1,268 44	
Reedy	5,154 86	
Cedarville	261 00	
Buff Lick	450 75	
Big Sandy	115 00	
Quick	607 65	
Stoffle	319 46	
		$1,388,491 06
Ohio—		
Ironton	$154,881 61	
Sciotoville	24,353 86	
Wheelersburg	6,930 47	
Coal Grove	8,407 77	
New Boston	41,361 05	
Coryville	4,132 81	
Bradrick	3,474 63	
Proctorville	8,869 80	
Chesapeake	10,149 69	
		$ 262,561 79
Kentucky—		
Ashland	$200,749 79	
Catlettsburg	50,552 31	
Burnaugh	639 22	
Buchanan	640 16	
Wolf Creek	1,334 02	
Warfield	1,945 27	
Louisa	16,297 87	
Greenup	12,445 93	
Chinnville	5,046 17	
Inez	4,551 66	
Russell	14,607 16	
		$ 308,809 56
Total for all distributing plants		$1,959,862 41

General office building, Quarrier and Dunbar Streets, Charleston, West Virginia—

Lot, 50' x 120'.
Building, 50'x100'

3-story steel, reinforced concrete, brick and terra cotta, with foundation and structural stone work designed to carry in all 10 stories; hot water heating system; modern plumbing on all floors and in basement; electric lighting throughout; tile floor in lobby on first and second floors; all other floors hard wood maple.

4—8'x6'x9' fireproof vaults, one located on each floor and in basement.

Building complete valued at	$100,000	
Office equipment	22,600	
Welding tools and equipment	4,000	
		$126,600 00

West Virginia Farm Maps

4,149 square miles of maps with farm lines	@ $50	$207,450	
3,439 square miles of maps without farm lines	@ $2	6,878	

Kentucky Farm Maps

288 square miles of maps with farm lines	@ $50	$ 14,400	
1,704 square miles of maps without farm lines	@ $2	3,408	
			$232,136 00

Loose Stock

Distribution	$ 58,855 84	
Production	333,983 82	
Transmission	111,717 25	
Telephone	934 77	
		$505,491 68
		$864,227 68

Sec. 108—**Incomplete Construction**

Construction work is in progress on various parts of the Company's property; the larger part of this, however, is in the field. The work that was unfinished on January 1, 1920, after careful study of the entire situation was estimated at $332,800 00

SUMMARY
OF
REPRODUCTION COST NEW
OF
UNITED FUEL GAS COMPANY
IN
WEST VIRGINIA, KENTUCKY AND OHIO
AS OF
January 1, 1920

Computed by
SAMUEL S. WYER
CONSULTING ENGINEER
Hartman Building, Columbus, Ohio

WYER No. 2

SUMMARY OF REPRODUCTION COST NEW NATURAL GAS PROPERTY AS OF January 1, 1920

1	**Natural Gas Leases**		
	Operated: 57,506 acres at $300	$17,251,800	
	Reserve: 148,028 acres at 100	14,802,800	
			$32,054,600
2	Wells	$ 8,867,790	
3	Well drips	275,940	
4	Well lines	919,844	
5	Field lines	3,279,479	
6	Field measuring stations	103,593	
7	Compressing stations	2,775,735	
8	Field headquarters	341,000	
9	Main lines	13,621,360	
10	Main line measuring stations	140,560	
11	Main line headquarters	173,000	
			$30,498,301
12	**Distributing plants**		

West Virginia:

Huntington	$1,047,720 39
Charleston	1,064,523 46
South Charleston	83,925 62
Milliken	269 52
Big Creek	2,639 08
Blue Creek	4,006 15
Rich Creek	326 68
East Bank	12,636 50
Coalburg	15,410 49
Chelyan	18,734 88
Jordon's Creek	1,310 45
Bannister	1,059 28
Walgrove	936 20
Walton	5,476 66
Kyger	1,019 28
King Shoals	755 56
Hunt	8,502 02

Sissonville	3,898 66	
Lock Seven	6,044 84	
Gay	4,549 30	
Ripley	24,823 59	
Poca	7,341 74	
Three Mile	1,459 40	
Elk View	3,760 41	
Amma	1,870 76	
Newton	566 00	
McClanahan	3,478 92	
Hurricane	15,129 32	
Ceredo	24,779 43	
Kenova	71,531 48	
Williamson	112,418 93	
Logan	43,804 23	
Cherry Tree Bottom	3,965 10	
East Lynn	5,609 20	
Barboursville	23,849 08	
Kermit	14,529 01	
Fort Gay	10,113 97	
Ona	1,615 00	
Culloden	3,616 04	
Clendenin	37,688 15	
Spencer	67,762 38	
Silverton	4,036 64	
Ravenswood	34,478 06	
Sandyville	3,679 61	
Gandeerville	2,605 92	
Reedy	10,443 98	
Cedarville	438 00	
Buff Lick	860 47	
Big Sandy	199 00	
Quick	1,182 30	
Stoffle	555 56	
Total for West Virginia		$2,822,075 72
Ohio		
Ironton	$ 314,168 45	
Sciotoville	49,778 30	
Wheelersburg	13,923 58	
Coal Grove	17,018 73	
New Boston	84,529 74	
Corryville	8,777 78	
Bradrick	7,347 78	
Proctorville	18,304 84	
Chesapeake	21,022 10	
Total for Ohio		534,871 30

Kentucky:			
Ashland	$ 399,345 33		
Catlettsburg	206,100 01		
Burnaugh	1,322 92		
Buchanan	1,238 44		
Wolf Creek	2,701 76		
Warfield	3,887 62		
Louisa	32,459 63		
Greenup	25,916 07		
Chinnville	10,265 84		
Ines	9,208 03		
Russell	29,339 06		
Total for Kentucky		$ 721,784 71	
Total for all distributing plants			$ 4,078,731
13—General headquarters			1,130,250
14—Incomplete construction work			332,800
15—Total reproduction cost new			$68,094,682

AVERAGE COST
OF
NATURAL GAS
PRODUCTION, TRANSMISSION AND DISTRIBUTION
OF
UNITED FUEL GAS COMPANY

Computed by
SAMUEL S. WYER
CONSULTING ENGINEER
Hartman Building, Columbus, Ohio
August 24, 1923

AVERAGE COST OF NATURAL GAS PRODUCTION, TRANSMISSION AND DISTRIBUTION OF UNITED FUEL GAS COMPANY

Sec. 1—**Fundamental Data**

These calculations are based on the following:

a—The reproduction cost new of the property at the present time is $68,000,000, and on a pre-war price basis was $55,000,000. The rate basis for these calculations is taken at $60,000,000

b—Annual rate of return to maintain integrity of property value, interest and profit, 16% of the above rate basis

c—Annual operating expenses—1922 figures 4,137,770
Distributed as shown in Sec. 3—

d—Volume of gas estimated as follows:

	1922	Future Estimate
Volume gas sold	46,867,511 "M"	45,000,000 "M"
Volume gas purchased	11,220,802 "M"	10,000,000 "M"
Volume gas produced	35,646,709 "M"	35,000,000 "M"
Volume gas to own consumers	14,872,918 "M"	14,000,000 "M"
Volume gas to own domestic consumers	6,977,493 "M"	6,000,000 "M"
Volume gas sold in field	587,152 "M"	1,000,000 "M"

e—The cost figures determined herein are the average costs for all gas handled. Where part of the gas is sold at less than the average rate, it is, of course, obvious that the remaining part must be sold in excess of the average in order to net the average income. For instance, the transmission cost to the Kentucky towns would be considerable above the average because of the distance factor.

Sec. 2—**Distribution of Property:**

Production, including compressing stations	72.5%
Transmission, main and lateral lines	21.5%
Distribution	6.0%
	100.0%

Sec. 3—**Operating Expense Distribution:**

(1952 Figures)

	Production	Transmission	Distribution	Total
Operating	$2,253,390	$101,046	$252,445	$2,606,881
General expense	103,378	36,487	12,162	152,027
Property taxes	343,818	121,349	40,449	505,615
Federal income taxes	184,112	64,981	21,660	270,753
	$2,884,698	$323,862	$326,716	$3,535,276
Gas purchased	602,494			602,494
	$3,487,192			$4,137,770

Sec. 4—**Annual Return Distribution:**

The 16% return on $60,000,000 = $9,600,000 is distributed on basis of property value thus:

Production	72.5%	$6,960,000
Transmission	21.5%	2,064,000
Distribution	6.0%	576,000
		$9,600,000

Sec. 5—**Total Annual Charges:**

	Production	Transmission	Distribution	Total
Operating	$ 3,487,192	$ 323,862	$326,716	$ 4,137,770
Return on property	6,960,000	2,064,000	576,000	9,600,000
	$10,447,192	$2,387,862	$902,716	$13,737,770

Sec. 6—**Production Cost:**

Total cost from Section 5 — $10,447,192 = 1,044,719,200c

Volume bearing this burden, total gas sold = 45,000,000 "M"

$$\text{Cost per "M"} = \frac{1,044,719,200}{45,000,000} = 23c$$

Sec. 7—**Transmission Cost.**

Total cost from Section 5 — $ 2,197,982 = 239,786,200¢
Volume bearing this burden: total gas sold, less field consumption = 45,000,000 "M" — 1,000,000 "M" = 44,000,000 "M"

$$\text{Cost per "M"} = \frac{239,786,200}{44,000,000} = 5¢$$

Sec. 8—**Distributing Cost—Including Industrial Gas:**

Total cost from Section 5 — $ 902,716 = 90,271,600¢
Volume bearing this burden = 14,000,000 "M"

$$\text{Cost per "M"} = \frac{90,271,600}{14,000,000} = 6¢$$

Sec. 9—**Distributing Cost—Domestic Gas Only.**

Total cost from Section 5 — $ 902,716 = 90,271,600¢
Volume bearing this burden = 6,000,000 "M"

$$\text{Cost per "M"} = \frac{90,271,600}{6,000,000} = 15¢$$

Sec. 10—**Production Cost on Basis of Including Gasoline Earnings.**

The net gasoline earnings for the year 1922 were $2,254,556
10% return on $1,190,000 gasoline investment 188,800
$2,065,756

Deducting the above $2,065,756 from $10,447,192 leaves $8,381,436 or 838,143,600¢ as a total production cost on the basis of crediting all gasoline earnings.

Production cost per "M" on basis of crediting all gasoline earnings = $\frac{838,143,600}{65,000,000} = 13¢$

That is, crediting all of the gasoline to natural gas would lower the production cost 2¢. Crediting one-half of the gasoline net to production cost would lower the production cost 21½¢.

Sec. 11—**Summary:**

Average production	25¢
Average transmission	5¢
Average distribution (Domestic only)	15¢

WYER No. 5

NATURAL GAS SITUATION OF WARFIELD NATURAL GAS COMPANY IN NORTHEASTERN KENTUCKY

In lieu of similar typewritten exhibit which was dated August 24, 1923

By SAMUEL S. WYER
Consulting Engineer
Hartman Building, Columbus, Ohio
October 2, 1923

October 2, 1923.

Warfield Natural Gas Company,
Ashland, Kentucky,

Gentlemen:

The following summarizes my recent investigation of your natural gas situation in northeastern Kentucky. Regardless of current beliefs and opinions, the facts that must be faced are:

1—All gas used in your northeastern Kentucky towns comes through interstate lines from West Virginia.

2—Decline in natural gas resources has been very marked.

3—There has been a large increase in the cost of producing and transmitting natural gas.

4—An immediate rate readjustment is necessary, and rates must be increased.

5—A readiness-to-serve charge ought to be provided in the new rate schedule so as to prevent discrimination between the various classes of consumers.

6—A price increase will not increase your profits but will enable you to cope with your increasing production cost situation and insure a much longer operating life for the property.

7—Natural gas is cheaper than any other commodity or service. Even $1.00 natural gas would be only 40 per cent. as expensive as its nearest competitor.

8—The waste in natural gas use in the home has been large and unnecessary.

9—The average domestic consumer could easily get the same service with one-half the gas.

10—Domestic consumers can pay the higher price per "1,000" for natural gas and, because of easily attainable "correct use practices," need not increase their total annual bill.

The immediate facing of the facts and carrying out of the suggestions made herein would insure dependable service at once, enable consumers to pay the higher price per "1,000" without any increase in their total annual bill, and delay for many years the time when they must go to the inferior and higher priced manufactured gas.

Respectfully submitted,

SAMUEL S. WYER.

INTERSTATE TRANSMISSION OF WEST VIRGINIA NATURAL GAS TO WARFIELD NATURAL GAS COMPANY IN KENTUCKY

As of July 1, 1923

NATURAL GAS SITUATION
IN NORTHEASTERN KENTUCKY

Sec. 1—**Source.**

The natural gas used in the towns in northeastern Kentucky is produced exclusively by the United Fuel Gas Company in West Virginia and is transmitted to the Kentucky towns through pipe lines engaged in interstate commerce, as shown on the map on page 4.

The local gas produced in Martin County, Kentucky, is used either in the towns in the field or goes through pipe lines to Louisville, Lexington and Frankfort.

Referring to the map on page 4, the United Fuel Gas Company's lines in West Virginia and Ohio are shown by the black connected dots. The Warfield Natural Gas Company's lines in Kentucky are shown by the heavy black lines. The direction of gas flow in the gas lines is shown by the arrows adjacent to the lines.

Sec. 2—**Natural Gas Decline.**

Natural gas is becoming scarce and the demand is now greater than the available supply. Since there is no regeneration when the gas is gone, it is gone forever.

The number of acres natural gas land reserved for each producing natural gas well, of the United Fuel Gas Company in West Virginia, declined from 3,900 acres in 1910 to 1,030 acres in 1922.

There has been a marked deline in rock pressure necessitating an increase in compressor capacity from 2,500 horsepower in 1913 to 32,000 horsepower in 1922.

The average open flow capacity of new natural gas wells declined from 7,000,000 cu. ft. in 1903 to 1,700,000 cu. ft. in 1922.

Sec. 3—**Increase Costs.**

There has been a marked increase in cost of producing natural gas, for instance:

Well drilling costs have increased 53% since 1910.

Average purchase price of natural gas in the field has increased 70% since 1917.

Sec. 4—**Worth.**

The natural gas that is supplied is worth twice any manufactured gas that can be made, that is, it would take 2,000 cu. ft. of manufactured gas to equal 1,000 cu. ft. of natural gas now supplied to the public.

The average price of manufactured gas for the entire United States is $1.25 per "1,000." As it would take 2,000 cu. ft. of this to equal 1,000 cu. ft. of natural gas, the equivalent of manufactured gas to equal 1,000 cu. ft. of natural gas would, therefore, cost $2.50.

All natural gas rates are also far below the cost of competing commodities like oil, gasoline or alcohol or services like electricity.[1]

Sec. 5—**Waste on Consumer's Premises.**

The average consumer uses much more gas than is necessary and could easily get the same service with one-half the volume. If correct use methods were intensively applied, each customer could make one foot of gas do the work where three are now misused. Correct use of gas will, therefore, permit the consumer to pay the higher price per unit without increasing his annual bill.[2]

Sec. 6—**Law of Diminishing Returns.**

It is a matter of common experience that the total money paid by the public per annum in any given community for gas

[1]For data on cost of various fuels for cooking see bulletin on "Relative cost of Gas, Soft Coal, Coal Oil, Gasoline and Electricity for Cooking" Department of Home Economics, Ohio State University, Columbus, Ohio.

[2]For discussion of waste of gas in the home see U. S. Bureau of Mines, Washington, D. C., Technical Paper 257 "Waste and Correct Use of Natural Gas in the Home."

service will remain approximately the same regardless of what the rate per "1,000" cu. ft. may be. As the price of natural gas goes up, the average volume used per domestic consumer will go down. Therefore, an increase in price per "1,000" cu. ft. will not materially increase the total income, but it may enable the company to maintain substantially the same total income from the smaller volume of sales.

Sec. 7—**Why Increase in Price is not Profiteering.**

Natural gas prices must go up, not because of any economic law of supply and demand, but because operating costs have greatly increased and only profitable operation will induce prospecting for new supplies, or secure the continued operation of small residue supplies. The fixed charges on a natural gas plant are larger than for any other utility and represent about 70% of the total cost of gas service, and, of course, go on irrespective of the volume of gas sold.

Even a marked decline in commodity prices cannot prevent the inevitable increase in natural gas rates if the service is to be continued.

There will be less gas available for sale each year, therefore a smaller volume of gas must carry the larger cost burden. This will actually result in a reduction in profits but will enable the company to continued to serve at a smaller annual return to itself for a much longer period of time.

Sec. 8—**Consumer More Interested in Continuity of Service than Price.**

The live question is not how cheaply natural gas can be obtained, but whether it can be obtained at any price that will insure continuity of service for the future. In view of the fact that $1.00 natural gas would be only 40% as expensive as any competing commodity or service that the consumer could buy, the stimulating of the hunting for new supplies, which will prolong the period of time that natural gas will be available, is of much more importance to the consumer than mere price.

Correct use of gas in the home will enable the consumer to get the same service with a smaller volume of gas and thus pay a price that will induce the stimulation of conservation in the field, thereby prolonging the life and do this without any increase in total annual cost to himself.

Sec. 9—**Prices in Other Markets for West Virginia Gas.**

The more than 100 towns in Ohio that are drawing from the same supply as the towns in northeastern Kentucky have paid for the following average prices for domestic gas:

1917	29c
1918	30c
1919	33c
1920	38c
1921	42c
1922	45c

In northeastern West Virginia, Rowlesburg is now paying 47c and Ridgeley 53c.

Sec. 10—**Crux of Future Gas Service Question.**

"Natural gas has never been equalled by any man-made product. The worth of natural gas for most high-grade utility services is ahead of any competing commodity or uility service. The only thing that will effectively conserve the supply for future use and thereby insure continuity of future service is an adequate price commensurate with the worth or value of the service. Therefore, the public is served best when natural gas mining is made profitable.

In no case will it be prudent business or good judgment to attempt to conserve a waste of gas that would not take care of the fixed charges on the investment and the operating cost during the life of the gas that is saved, on the basis of the volume of the gas that could be obtained through such a conservation measure and delivered through the ultimate consumers' meter, at the existing market prices. An adequate price is,

therefore, the crux of the natural gas conservation question. Unless it is made worth saving by the public it will not be good business judgment to attempt to save it."

Sec. 11—Characteristics Gas Heating House Service

For a number of years an 8 room brick house—29x34—has been heated exclusively with gas. For room heating, hot water heating, cooking and burning the garbage, this house requires monthly as follows:

	"1,000" cu. ft.
January	65
February	55
March	40
April	25
May	11
June	5
July	3
August	3
September	3
October	12
November	25
December	33
Annual Total	280

The water heating, cooking and garbage burning during the summer months average 3 "1,000" cu. ft. per month. The maximum monthly gas consumption for house heating purposes is, therefore, 62 "1,000" cu. ft. This shows that the maximum monthly heating load is more than 20 times the average summer load.

The peak load demand for this house during extreme cold weather to keep the entire house warm is 500 cu. ft. of gas per hour.

The maximum hour peak of 500 cu. ft. an hour does not occur every winter, in fact, has not occurred for two years. About 300 cu. ft. an hour represents the maximum hourly

[1] Smithsonian Institution Bulletin 102, Part 7 "Natural Gas: Its Production, Service and Conservation."

demand of the usual winter, but when the extreme demand does come, if the gas service is unable to meet it, there will be an immediate complaint of gas shortage and poor service.

	"1,000" cu. ft.
The annual plant capacity for the 8,760 hours of the year just to meet the maximum hourly demand	4,380
Total annual sales	280

Therefore, the annual sales represents 6½% of the total plant capacity that must be held in readiness to serve and meet the peak load conditions.

Sec. 12—**Why Readiness-to-Serve Charge is Desirable.**

Many consumers are carried at a loss. When such carrying costs are not paid by the consumer for whom they are incurred, they must, therefore, be carried by other consumers and thus produce discrimination.

The readiness-to-serve charge is merely a charge made to cover the costs incurred by the gas company in holding itself in constant readiness to render service without, however, delivering any units of service. In this, the consumer first pays the cost incurred in having his premises connected to the constant serving possibilities of the gas plant and this is paid whether any gas is delivered or not. The actual gas used is then paid for in addition at a fixed price per "1,000." If these costs are not thus separated and properly placed, some consumers of gas must pay a portion of other consumers' costs. Manifestly this is unjust. Such "below cost" consumers—which are not necessarily and in fact usually are not poor people—become social parasites that must have the cost of their service paid for by other consumers.

The readiness-to-serve charges are much like the membership dues in a club; the charge gives the house privileges, but all service used is paid for in addition. No club could exist without making its members pay for the cost of the service included in giving them an opportunity to enter the club house and use its services. In fact, a readiness-to-serve charge is

simply a monthly due for membership in a community enterprize.[1]

Sec. 13—**Capital Cannot Be Commandeered.**

Capital for prospecting and hunting for additional supplies of natural gas to replace the rapidly declining present supplies cannot be commandeered, but can be secured only as the mining operation is made profitable. That is, only adequate prices in the field will induce capital to find gas. For this reason the public and rate regulating bodies must appreciate that a natural gas rate cannot coerce capital into the enterprise, but that capital will be induced into the enterprise only when it is made profitable to take the risk.

Sec. 14—**Education In Correct Gas Use Desirable.**

The public should arrange that the teachers of Home Economics and General Science, in the public schools, teach correct use of natural gas to their pupils and have the pupils relay this information to the home, similar to the methods pursued in a large number of natural gas using towns in other states. This education work should, of course, be done without any reference whatsoever to the gas company.

Dependable material for the teachers' use can be secured free from the Smithsonian Institution, Washington, D. C.

Sec. 15—**What Must Be Done to Get Service.**

Recognize facts regarding decline of supply and increasing cost of production. Frankly face the appliance situation. Immediately carry out the U. S. Government recommendations[2] for correct gas use so as to be able to get the same service with a smaller volume of gas. Pay the higher price per "1,000" necessary to insure profitable operation in the field—which, however, because of the smaller volume needed, will not

[1]For further discussion and array of decisions recognising the justness of the readiness to serve charge idea, see report "Elimination of Discrimination in Public Utility Rates by "Readiness to Serve" Charges," 89 pp. by Samuel W. Wyer, Consulting Engineer, Columbus, Ohio.

[2]For further discussion see U. S. Bureau of Mines "Resolutions of the National Committee on Natural Gas Conservation"—June 11, 1920, also Technical Paper 257 "Waste and Correct Use of Natural Gas in the Home."

increase the total annual cost—and by so doing get better service and a much longer period of use than is possible under present conditions.

Sec. 16—**Summarized Rules for Correct Natural Gas Use.**

1—Be sure the burners are properly adjusted.

2—Use gas at low pressures only.*

3—Never use gas in any coal burning appliance. There is no such thing as an efficient combination burning appliance.

4—In cook stoves use open tops only and have burners $1\frac{1}{4}$ inches below cooking vessel.

5—Be sure that water heaters and storage tanks are properly insulated and that enough heat absorbing surface is available so that the combustion products are cool when they leave the heater.

6—Never use natural gas for room heaters or hot water heaters without flue connections. Last winter, from the use of flueless gas heating stoves, there were 110 gas asphyxiations in Ohio of which 59 were fatal.

*For further discussion see Bulletin 28 "Effect of Gas Pressure on Natural Gas Cooking Operations in the Home"—Ohio State University, Columbus, Ohio.

UNITED FUEL GAS COMPANY.

Prices Paid for Gas Purchased.

Average price paid for gas purchased for year 1921	0.0459
Average price paid for gas purchased in contracts made since December 31, 1921	0.0797

HIGHTOWER EXHIBIT No. 2

UNITED FUEL GAS COMPANY

Statement of Gas Capital Account as of June 30, 1933

	Distribution	Production	Transmission	Total
Pipe	$ 638,960 99	$ 1,476,390 72	$3,362,690 27	$ 5,478,831 97
Casing in Wells		1,282,909 37		1,282,909 37
Other Well Construction		3,539,974 91		3,539,974 91
Acreage		29,536,566 90		29,536,566 90
Rights of Way	2,493 16	39,923 24	73,166 64	116,453 24
Rights of Way Expense	6,191 59	65,623 55	66,423 16	116,229 30
Buildings	110,949 34	55,960 01	139,301 23	305,212 58
Fittings	82,255 11	91,681 87	20,765 77	192,702 75
Gate Valves and Other Material	29,157 45	87,569 81	89,921 72	110,649 39
Labor, Teaming and Freight	432,370 29	944,695 66	2,177,526 17	3,594,592 21
Regulators	24,569 15	1,579 91	2,788 68	28,938 74
Telegraph and Telephone Lines			111,691 25	111,691 25
Office Furniture	36,732 82	3,556 96	586 60	40,875 38
Large Tools	9,470 93	6,455 71	649 92	16,575 49
Meters	660,149 93	10,551 75	10,476 74	681,179 42
Compressor Stations			2,603,632 63	2,603,632 63
Measuring Stations	24,550 59	51,360 11	38,339 73	116,250 43
Service Lines	313,629 22			313,629 22
Horses, Wagons and Autos	15,479 62	21,056 68	1,725 26	38,260 56
Drilling Tools		71,961 23		71,961 23
Cleaning-out Tools		46,931 27		46,931 27
Adjustment	6,696 75	782,468 99	2,381 00	789,544 74
Cost of Financing				193,792 85
Incomplete Construction				462,662 15
	$2,153,604 92	$46,554,583 54	$9,972,077 12	$58,665,910 40

HIGHTOWER EXHIBIT No. 3

UNITED FUEL GAS COMPANY.

Increase in Capital Expenditures from July 31, 1921, to June 30, 1923.

	Distribution	Production	Transmission	Total
Pipe	$ 34,119 66	$129,270 25	$201,718 32	$ 365,107 23
Casing in Well		91,768 22		91,768 22
Other Well Construction		212,734 72		212,734 72
Acreage		21,241 00		21,241 00
Rights of Way	96 50	3,963 45	3,625 97	7,685 92
Rights of Way Expense	50 45	4,279 64	7,891 27	12,221 36
Buildings	696 43	929 44	15,841 08	17,366 95
Fittings	1,484 74	8,501 84	617 11	11,003 69
Gate Valves and Other Material	847 43	3,003 39	2,122 21	5,973 03
Labor, Teaming and Freight	25,372 28	93,560 06	148,643 83	267,576 17
Regulators	1,775 13	292 88	413 34	2,481 35
Telegraph and Telephone Lines			551 91	551 91
Office Furniture	1,690 14	110 50	6 02	1,794 62
Large Tools	2,130 48	685 99		2,816 47
Meters	69,709 18	3,396 43	1,852 60	74,958 21
Compressor Stations			271,669 76	271,669 76
Measuring Stations	5,993 95	5,343 74	76 24	11,261 45
Service Lines	59,633 58			59,633 58
Horses, Wagons and Autos	8,165 05	7,904 20	298 92	38 07
Drilling Tools, Cleaning-out Tools		2,132 20		2,132 25
Total Net Additions	$211,764 00	$573 609,60	$654,366 22	$1,439,939 82

Grand Total Capital Expenditures for Additions July 31, 1921, to June 30, 1923 ... $1,999,938 22

HIGHTOWER EXHIBIT No. 4.

UNITED FUEL GAS COMPANY.

Statement of Gas Sales and Expenses for Year, June 30, 1922 to June 30, 1923.

Gas Sales	M. Cu. Ft.	Amount	M. Cu. Ft.	Amount
Domestic	7,737,146	$1,902,574.05		
Industrial	8,447,531	2,019,656.10		
Field	771,868	77,187.00		
Wholesale	30,386,239	3,666,677.56		
			47,342,784	$7,666,094.71
Misc. Gas Earnings				14,932.98
Gasoline Royalty				395,969.97
				$8,076,997.66
Less Gas Expense				
Gas Purchased	11,202,357	$ 645,988.79		
Production Expense		1,213,110.31		
Transmission Expense		588,462.43		
Distribution Expense		141,259.73		
Commercial Expense		116,133.98		
General Expense		138,842.62		
General Taxes		830,597.69		
Federal Taxes		195,648.95		
			11,202,357	$3,870,044.50
Net Gas Earnings (before Depletion and Depreciation)				$4,506,953.16

HIGHTOWER EXHIBIT No. 5.

UNITED FUEL GAS COMPANY.

Statement Showing Compressor Station Investment and Operating Expense for the Years 1914 to 1922, Both Inclusive.

Date	Investment	Operating Expense
December 31, 1914	$ 276,117 97	$ 25,150 62
December 31, 1915	349,191 71	28,778 92
December 31, 1916	360,498 19	49,967 90
December 31, 1917	509,943 59	94,068 82
December 31, 1918	982,653 01	182,843 39
December 31, 1919	1,559,855 74	269,971 77
December 31, 1920	2,172,130 65	471,446 70
December 31, 1921	2,487,663 06	415,317 49
December 31, 1922	2,666,867 32	457,490 34

HIGHTOWER EXHIBIT No. 6.

UNITED FUEL GAS COMPANY.

Statement Showing Total Gas Consumption for the Years Ending December 31, 1921, and 1922, and for the Year Ending June 30, 1923, in the Following Cities:

	M. Cu. Ft. 1921	M. Cu. Ft. 1922	M. Cu. Ft. Year Ending June 30, 1923
Ashland	1,033,215	1,215,249	1,555,663
Catlettsburg	151,700	154,531	174,964
Louisa	79,751	85,604	88,732
Russell	49,844	52,463	56,410
Total	1,314,510	1,507,847	1,875,769

HIGHTOWER EXHIBIT No. 7.

UNITED FUEL GAS COMPANY.

Statement Showing Total Number of Domestic Consumers for the Year 1922, and the Average Amount Received for Gas from Each During Said Year, in the Following Cities:

	Number of Consumers	Average Amt. Received
Ashland	4,573	$44 28
Catlettsburg	1,214	37 74
Louisa	541	43 73
Russell	402	31 99

HIGHTOWER EXHIBIT No. 8.

UNITED FUEL GAS COMPANY.

Statement Showing Distribution Investment as of June 30, 1923, in the Following Cities:

Ashland	$191,434 75
Catlettsburg	47,357 50
Louisa	18,230 92
Russell	14,338 44
Total	$271,361 61

HIGHTOWER EXHIBIT No. 9.

UNITED FUEL GAS COMPANY.

Total Amount of Gas Produced in Kentucky for Each of the Years 1921 and 1922, and for the First Seven Months of the Year 1923.

Month	M. Cu. Ft. Year 1921	M. Cu. Ft. Year 1922	M. Cu. Ft. First 7 Months of 1923
January	136,400	97,000	96,000
February	123,200	80,880	81,900
March	103,230	72,590	86,025
April	52,800	10,710	78,750
May	47,700		58,800
June	5,675		9,900
July			1,960
August		47,000	
September	73,800	16,960	
October	81,840	86,800	
November	81,520	96,000	
December	96,800	99,200	
Total	802,965	607,140	413,335

UNITED FUEL GAS COMPANY.

Statement Showing Rate of Annual Return for Year Ending June 30, 1923, on Gas Capital Account Amounting to $58,665,910.48 Apportioned to Cities of Ashland, Catlettsburg, Louisa and Russell.

Investment	Ashland and Catlettsburg	Louisa	Russell
Production, Peak	$3,610,112.96	$131,276.84	$ 97,769.17
Transmission, Peak	690,849.94	25,121.82	17,944.15
General, Peak	14,921.28	542.59	387.57
Distribution, Actual	242,640.85	18,380.92	14,479.03
Incomplete Constr., Peak	35,574.16	1,293.61	924.00
Total Investment	$4,594,099.19	$176,615.78	$131,503.92
Operating Revenue, Actual	918,723.18	27,806.12	17,624.36
Operating Expenses			
Gas Purchased, Sales	$ 41,214.08	$ 1,227.38	$ 775.19
Production, Peak	93,409.49	3,396.71	2,426.22
Transmission, Peak	45,311.61	1,647.69	1,176.92
Distribution, Actual	23,828.19	1,096.24	810.83
Commercial, Actual	13,262.50	1,222.36	904.11
General, Sales	10,690.88	388.76	277.69
General Taxes, Investment	44,570.21	1,591.79	1,061.20
Federal Taxes, Sales	12,482.40	371.73	234.78
Total Operating Expense	$ 284,769.36	$ 10,942.66	$ 7,666.94
Net Earnings from Gas Sales	633,953.82	16,863.46	9,957.42
Investment as above	4,594,099.19	176,615.78	131,503.92
Rate of Return before Depletionand Depreciation	13.8%	9.5%	7.6%

Exhibit E—14.

BEFORE THE

RAILROAD COMMISSION

OF

KENTUCKY

WARFIELD NATURAL GAS COMPANY,
A CORPORATION OF KENTUCKY,
Petitioner,

vs.

CITY OF CATLETTSBURG, ET AL.
Defendants.

Upon Petition

AND

CITY OF CATLETTSBURG, ET AL.,
Petitioner,

vs.

UNITED FUEL GAS COMPANY,
Defendant.

Upon Motion of Defendant To Vacate Former Order of Commission

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By consent of the parties hereto, it is ordered by the Railroad Commission that the affirmative allegations in the pleading of the defendant Cities in the first above styled cause entitled "Answer, Counter-Claim and Cross-Petition" be and they are hereby traversed of record.

It is stipulated for the purposes of this case as follows:

(1). That the above mentioned United Fuel Gas Company did on June 28, 1923, by deed of that date transfer and convey to the above mentioned Warfield Natural Gas Company, all of the property of said first mentioned company of every character, situated in the State of Kentucky, as set forth in the application filed in the case first above mentioned.

(2) That contemporaneously with said conveyance of June 28, 1923, said Warfield Natural Gas Company entered into a written contract with said United Fuel Gas Company for the purchase by the former from the latter, of natural gas, at a point in West Virginia substantially as alleged in the above mentioned application.

(3) That in the latter part of August, 1923, said Warfield Natural Gas Company, gave public notice to its gas consumers in the Cities of Ashland, Catlettsburg, Louisa and Russell that in view of the pending controversy at that time concerning the lawful rate chargeable for natural gas to domestic consumers, said company would accept payment for gas consumed during the said month of August and subsequent months until the termination of said controversy, at either the increased rate filed with the Commission by said company to be effective August 1, 1923, or at the option of said consumers, at the lower rate in effect immediately previous thereto, and in connection therewith said company stated in said notice that acceptance of payment by it at the lower rate would be without prejudice to collect the balance due in the event said rate controversy should be terminated in its favor, and that in the contrary event it would refund to any consumers paying the new rate any amount thereof in excess of that finally determined to be unlawful. That for gas consumed in said month of August, 6,733 consumers paid at the new or increased rate while 322 paid at the former rate, and for gas consumed in the month of September, 1923, 6,838 paid at the new rate as against 217 who paid at the former rate.

(4) That promptly following the denial by this Commission of a re-hearing in the case second above mentioned, the United Fuel Gas Company, defendant therein, communicated in writing to this Commission its doubt as to the true interpretation of the final order therein pointing out that the same was susceptible of two meanings, that is as to whether the rate authorized thereby to be charged should be 80 per cent of the previous gross rate or 80 per cent of the previous net rate, and in said communication said company stated that unless this Commission should rule otherwise, it, the said gas company, would understand the said order to permit the charging of 80 per cent of the former gross rate (subject to some discount for prompt payment); that the Commission made no further order or ruling as to said matter and said company thereafter until its sale of said property as stated above, did charge to all of its consumers in said four cities, 80 per cent of the previously prevailing gross rate from which 80 per cent it allowed a discount of one cent per thousand for prompt payment.

COPY

HEARING

BEFORE THE RAILROAD COMMISSION OF KENTUCKY

Frankfort, Kentucky,

November 14, 1923.

WARFIELD NATURAL GAS COMPANY,
A CORPORATION OF KENTUCKY,
Petitioner,

vs.

CITY OF CATLETTSBURG, CITY OF ASHLAND
AND CITY OF LOUISA, EACH A MUNICIPAL
CORPORATION OF KENTUCKY,
Defendants,

AND

UNITED FUEL GAS COMPANY,
Petitioner,

vs.

CITY OF CATLETTSBURG, CITY OF ASHLAND
AND CITY OF LOUISA, EACH A MUNICIPAL
CORPORATION OF KENTUCKY,
Defendants.

APPEARANCES

For Petitioners: R. G. Altizer, Charleston, West Virginia; S. S. Willis, Ashland, Ky., Counsel for The Warfield Natural Gas Company.

For Defendants: City of Catlettsburg, V. A. Dinkle, Catlettsburg, Kentucky; City of Ashland, John T. Diederich, Ashland, Ky.

IN THE MATTER OF

WARFIELD NATURAL GAS COMPANY, A CORPORATION OF KENTUCKY,

Petitioner,

vs.

CITY OF CATLETTSBURG, CITY OF ASHLAND AND CITY OF LOUISA, EACH A MUNICIPAL CORPORATION OF KENTUCKY,

Defendants.

Case No. 294

BEFORE The Railroad Commission of Kentucky at its regular meeting on November 14, 1923, at Frankfort, Kentucky, Commissioners J. S. Cooper, Chairman, F. N. Burns, and E. C. Kash present.

By consent of parties hereto, it is ordered by the Railroad Commission that the affirmative allegations in the pleading of the defendant entitled, "Answer, Counter-Claim, and Cross-Petition" be and the same are hereby traversed of record.

WITNESS R. G. Altizer, after having been first duly sworn, testified as follows:

BY S. S. WILLIS, COUNSEL FOR WARFIELD NATURAL GAS COMPANY:

Question—Mr. Allison, what is your profession?

Answer—I am an attorney-at-law.

Q—What connection have you with the Warfield Natural Gas Company?

A.—I am a member of the Board of Directors.

Q—What connection have you with the United Fuel Gas Co.?

A.—I am a member of the Board of Directors and Vice-President.

Q—To shorten this matter, I will ask you to make a statement covering the transfer of the property of the United Fuel Gas Co. to the Warfield Natural Gas Co. and the copies of the conveyance.

A.—On the 29th day of June, 1922, by deed of that date, the United Fuel Gas Co., which is a West Virginia Corporation, conveyed to the Warfield Natural Gas Co., which is a Kentucky Corporation, all of the property and property rights of every character at that time owned by the United Fuel Gas Co. situated in the State of Kentucky. The deed was upon its face to become effective as of the 30th day of June, 1922.

I offer in evidence a copy of that conveyance.

(Copy of conveyance marked "Allison No. 1" for identification.)

As part of the same transaction, a separate written contract of that date, the United Fuel Gas Co. entered into an agreement with the Warfield Natural Gas Co. about a number of things, one of which was a provision for the sale of gas by the West Virginia Company to the Kentucky Company to be delivered at a point near Kenova in the State of West Virginia, near the boundary line between the two States. The contract was for such gas as the Company may have for sale available at that time and to the extent the Warfield Company might desire to purchase it for consumers in the territory previously supplied by the West Virginia Company.

I have a copy of that contract, which I will also offer as an exhibit.

(Copy of said contract marked "Altiser No. 2" for identification)

After this transaction, the United Fuel Gas Co. ceased to do business in the State of Kentucky, and it has done no business of that character since that time.

Question—I would like you to read this into the record.

Answer—On July 9, 1925, I wrote to the Secretary of State inquiring what formalities were necessary for that purpose, and the Secretary of State sent to me a form prescribed by his office for corporate withdrawal from the State. This form was signed by myself, and I was Vice-President of the Company, and put its signature thereon, on July 11, 1925. It is in the following form:

"Withdrawal of Corporation with home office at Charleston, West Virginia.

To the Secretary of State,
Frankfort, Kentucky.

Sir:

Notice is hereby given that the United Fuel Gas Co. of Charleston, West Virginia, a corporation organized under the laws of the State of West Virginia, has resolved to withdraw any and all of its business from the State of Kentucky, and same is declared to have been done.

WHEREFORE, it hereby cancels all appointments of statutory agents in Kentucky.

Dated at Charleston, West Virginia, on the 12th day of July, 1925.

Signed:
R. G. Altiser, Vice-President
H. S. Foote, Secretary.

And attached to the corporate seal of the United Fuel Gas Co.

This was mailed to the Secretary of State of Kentucky from our office on the 12th day of July, 1923, and I have a formal acknowledgment of his receipt on a postal card addressed to the United Fuel Gas Co., Charleston, W. Va., postmarked, Frankfort, Ky., July 14, 1923, which is as follows:

"Frankfort, Ky., July 14, 1923.

United Fuel Gas Co., a Corporation of the State of West Virginia, hereby files in the Office of the Secretary of State its withdrawal of said corporation under date of July 13, 1923.

Signed: Fred A. Vaughn, Secretary of State
By: J. G. Johnson."

As previously stated, the United Fuel Gas Co. has not since that time engaged in any business in the State of Kentucky or exercised any corporate right within that State. It has appeared here by its counsel since that time for the sole purpose of moving to set aside a formal order made by this Commission in January, 1922, relating to the rates at that time being charged by that Company in the cities in question in that proceeding.

BY COMMISSIONER BURNS:

Question—That character of business engaged is not the same as promotion and sale of stock?

Answer—No sir.

(Witness proceeding).

It appears from the files of the Commission that sometime in the latter part of June, 1923, the Warfield Natural Gas Co. filed here its schedule of rates for natural gas in cities involved in this proceeding. Said schedule on its face purporting to become effective the 1st day of August, 1923, that provides for a rate somewhat in excess of the former Company. After that was done, considerable notoriety was given to the circumstances in the Ashland newspaper and other public ways in Ashland, and a controversy became imminent as to what was the lawful rate, it being

claimed by the Warfield Company that its filing of schedule here for more than 30 days and giving notice in the manner required by the Statute, automatically put into effect the rate. On the other hand, the City Council of Ashland and other municipalities took similar action providing for resistance of the rate. It became somewhat of a public question in the cities.

In view of that controversy and apparent probability of litigation to determine what was the lawful rate, the Warfield Company in the latter part of August, 1923, before any bills became due, had the new rate published in the Ashland newspaper and other conspicuous advertisement, and also posted the same notice out in all office windows where bills were collected, and in other ways gave as much publicity of the fact as possible, that in view of the local controversy which was about to begin to determine what was the lawful rate, it would accept from its customers payment at either rates i. e., the customers were given option in this notice to pay the old rate, if they preferred to do so, but in that event, the Company in accepting it did not waive its claim to collect a balance in the event the controversy should be finally determined in its favor. On the other hand, in this same notice, it said to the consumer, if they preferred to pay at the new rate, the Company would accept that, but in case afterwards it should be unlawful, it would refund to them the difference, in order that in the wind-up all customers would pay at the same rate. Bills for August as sent out for that month, 6733 customers paid at the new rate, while 322 paid at the old rate. The gas consumed in the month of September, which bills are paid in the month of October, 6838 paid at the new rate as against 217 paid at the former rate. We have not had information as to the bills for the month of October yet, because they are not paid until the 10th. My information is that they are being paid in about the same ratio in October as in September.

One other matter. It is charged in the cross-petition filed in this case by the cities that the United Fuel Gas

Co. has disobeyed and violated the order of your Commission made in July, 1922, by which you require a reduction of the within rates to 80% of what they have been. I want to make this statement in reference to that. Immediately after we had notice of your final order, ordering that this reduction be made, we applied for a rehearing, which appears of record, and that was refused. We then at once wrote a formal communication to the Commission, saying that inasmuch as our rate which had been enforced before your order was a rate of 40c per thousand cubic feet, discount of 5c per thousand for prompt payment, and inasmuch as your order simply provided it should be reduced 80%, that there was some question in our minds as to which of the two things the order meant. In other words, it was ambiguous or susceptible to different interpretations. It might mean that the rate we were permitted to charge was 80% of the gross rate or 80% of the net rate, which would be 35c. But we said to the Commission we understood it to mean that we were only required to reduce the rate to the extent it would be 80% of the gross rate, and unless the Commission made some additional ruling or otherwise directed us, that we would proceed upon that theory. The Commission took no further action. We received no further notice.

We sent out the next bills, therefore, at 80% of the gross rate, which would be 32c as a new gross rate, and from that we allowed one cent discount for prompt payment, so that the net rate became 31c. That is the rate and only rate the United Fuel Gas Company has charged since that date up until the time it ceased to do business in the State.

I should add further, that as far as I know every one concerned acquiesced in the construction we placed upon the Commission's order. The representatives of none of these cities have protested to us at any time before the filing of this order that the interpretation we made was not the correct one, and as far as that Company was concerned, it acted under the honest belief that it was obeying the order of the Commission.

At this point Mr. J. T. Diederich, Attorney for the City of Ashland, made a motion to strike the last question and answer to the last question from the record.

BY COMMISSIONER BURNS:

I am inclined to believe that there was an acquiescence in the interpretation of the order as far as the Commission knew as well as I remember 80% was applied to the gross. There was some discussion and we declined to do anything.

BY ATTORNEY JOHN T. DIEDERICH:

The question he is raising here was raised in their petition for rehearing, that it was ambiguous, and it was overruled. That is the reason I put in a motion to strike, that petition sets out all of that.

BY COMMISSIONER BURNS:

The order overruled does not effect the meaning of the order.

BY MR. ALTIZER:

I want to ask that my letter to the Commission, in which I requested an interpretation of the order, be made a part of the record and part of my testimony here.

BY ATTORNEY WILLIS:

That is probably included in the order making a record.

BY COMMISSIONER BURNS:

I don't think that part of it is as important as to determine whether or not the successor to the Warfield Company is bound by the order of the United Fuel Gas Co.

BY ATTORNEY WILLIS:

We did not want to let it stand in the pleading without meeting it.

BY COMMISSIONER BURNS:

When it comes to briefing the case the Commission would like to have authorities from both sides upon that subject.

BY MR. DIEDERICH:

Question—The United Fuel Gas Co. then in June, 1923, sold all the property which it owned to the Warfield Natural Gas Co. in Kentucky and all the property which was owned by the United Fuel Gas Co. in West Virginia was retained by the United Fuel Gas Co.?

Answer—Yes sir.

Q.—So, the West Virginia and Kentucky boundary lines determine whoever owns on the Kentucky side the Warfield Natural Gas Co. and on the West Virginia side the United Fuel Gas Co. owns, is that correct?

A.—That is correct.

Q.—When you attempted to withdraw from the State of Kentucky, did you secure the permission of the Railroad Commission of Kentucky?

A.—I did not.

Q.—Did you make any application before this Commission?

A.—I did not.

Q.—When the alleged contract between the Warfield Natural Gas Co. and the United Fuel Gas Co. was made, did you ask permission of the Railroad Commission of Kentucky to enter into that contract?

A.—I did not.

Q.—Did you secure their approval of that contract?

A.—I did not. The contract was made in West Virginia.

BY COMMISSIONER BURNS:

Is it shown whether or not the franchise expired?

BY MR. DIEDERICH:

It is admitted into the record and made a part of this record in its entirety, including all the orders therein.

BY MR. DIEDERICH:

Question—Mr. Altizer, what was the purpose, if you can state briefly, of organizing a separate corporation to take over the Kentucky property.

Answer—I wouldn't like to undertake to state that fully, because I may have different ideas from some other member of the Board. I am one member of the Board of Directors. There are a good many advantages in operating in a State under a charter of that State. We came to the conclusion for several reasons, that it would seem practicable to operate our Kentucky business thru a Kentucky Company. We also thought as another inducement perhaps it would be good business on our part not to dispose of our Kentucky property and perhaps it could be sold in a better way than by selling it in piece-meal fashion.

Q.—At the present time the United Fuel Gas Co. owns all the stock of the Warfield Natural Gas Co.?

A.—That is true, except qualifying shares of the members of the Board of Directors.

Q.—Are you one of the incorporators of the Warfield Natural Gas Co.?

A.—I don't think so. I wouldn't be certain. It was done thru my office to a large extent.

Q.—As soon as the Warfield Natural Gas Co. was incorporated, you made a request to file a schedule for a new rate increase?

A.—Not immediately after.

Q.—Shortly after?

A.—Within a reasonable time after.

BY COMMISSIONER BURNS:

Question—Was one of the reasons for withdrawing and organizing the Warfield Company to enable the United Fuel Gas Co. to in any way evade the Law of 1920 in Kentucky, that Act in regard to withdrawing from cities?

Answer—I wouldn't like to answer that categorically. We wouldn't attempt to evade any laws. We thought perhaps we would be in a better technical position.

Q.—I just wondered if it were.

A.—That was one of the things influenced me to vote for it as a member of the Board.

Q.—I think that is where a serious question of law comes under that Act.

A.—The Warfield Company has before you now its application to withdraw from these particular cities, that is under the Statute.

W. J. Hightower, having been already sworn, testified as follows:

BY MR. DIEDERICH:

Question—I believe you are connected with the United Fuel Gas Co.?

Answer—Yes sir.

Q.—In what capacity?

A.—Assistant Treasurer.

Q.—You have access or custody of the books of that Company?

A.—Yes sir.

Q.—You furnished, I believe, for the United Fuel Gas Co. certain data to me as Attorney for the City of Ashland?

A.—Yes sir.

Q.—Are you familiar with the testimony of Mr. Wyer, especially his Exhibit No. 3?

A.—I have read it.

Q.—In his Exhibit No. 3 under the heading of "Average Cost of Natural Gas" which is filed before this Commission, he gives the total operating expense distribution as $4,137,770?

A.—For what period is that?

Q.—For the year 1922. I notice by your statement that the same item is given as $3,630,845.31.

A.—On what Exhibit?

Q.—Exhibit E Sheet A.

A.—Mr. Wyer's figures includes something we do not have apparently?

Q.—Your figures are correct, are they not?

A.—Well, there is such a thing as sinking fund, and interest and taxes that might be included in Mr. Wyer's that are not included in ours. I would like to look it up. You must remember that in making these statements up part of the year 1922 includes our making apportionments at different periods of time, which may cause a difference in figures. I would be glad to furnish the reason of the difference in these two figures.

Q.—Are you acquainted with the proceedings before the Public Service Commission of West Virginia in this case?

A.—To a very limited extent.

Q.—Are you familiar with the figures that were prepared for the City of Huntington and Charleston by other experts?

A.—Some of them, yes sir. I don't know what particular figure you refer to.

Q.—Did you ever see that sheet?

(Sheet No. 4 examined by witness)

A.—To a certain extent these figures seem familiar.

Q.—You are not prepared now to explain the difference between these three statements?

A.—No sir, I would have to look it up.

Q.—And then you will give it to the Commission?

A—Yes sir.

Q.—Do you have such an account as a lease-hold account?

A.—We have a lease-hold expense and lease-hold investment, which do you refer to?

Q.—Lease-hold expense.

A.—Yes sir, we have such an expense.

Q.—What is included in the leasehold expense?

A.—Cost of paying rental, obtaining leases, etc.

Q.—Obtaining leases and paying rentals?

A.—Yes sir.

Q.—On Line 9, Sheet A, as I have marked it, and in answer to Question E, you have an item of $581,009.87 June taxes for the year 1922. Is that the proper amount for the taxes of 1922?

A.—Yes sir.

Q.—And that does not represent any additional time except for that year?

A.—No, that is the amount for that particular year.

Q.—That does not represent the 15 months?

A.—It occurs to me that there was one year in which West Virginia, whose tax year ended April 1, had changed the tax year to end December 31st. I can't say exactly, but I think it was in 1922 we aggregated the extra three months time.

Q.—You added it?

A.—I believe so, I am not certain.

Q.—Could you verify that and give the information to the Commission?

A.—Yes sir.

Q.—Then, if that is a fact, should not there be deducted about $75,000 for the year 1922 in that item?

A.—It depends on which way you look at it. We had to pay the extra tax.

Q.—Of that amount?

A.—Yes sir.

Q.—Does that amount of taxes represent simply amount of taxes paid on the property belonging to the United Fuel Gas Co. during that year, or does it represent taxes on some of the subsidiaries?

A.—United Fuel Gas Co. property, each one pays their own tax.

Q.—Do you have a carbon black department?

A.—We did have a carbon black department.

Q.—You have done away with it?

A.—It is closed down now.

Q.—Was it operated as a subsidiary company as part of the Gas Company?

A.—Up until April, 1922, part of the Gas Company, until that time it was earnings of the Gas Company.

Q.—You sold the gas to make the carbon black?

A.—Yes sir.

Q.—Do you know what price you got for that gas?

A.—No, I don't without looking it up.

Q.—Could you furnish that when you send in the rest of this data?

A.—Yes sir.

Q.—What account is charged with such items as replacements, pipe lines, service lines, meters, regulators, in fact, any sort of property that has to be replaced, worn out, is that charged to operating expense?

A.—Labor only.

Q.—And the material charged to investment?

A.—Yes sir, and the investment credited with the material salvaged.

Q.—Now, do you remember when the United Fuel Gas Co. became a reserve?

A.—Yes sir.

Q.—What year?

A.—1917.

Q.—What account is that money in now? What has become of it?

A.—The account is placed on the books to retain it in the Company, not to be paid out in dividends, and used mostly for improvements and betterments of the property.

Q.—But you keep it in a separate account on the books of the Company?

A.—Yes sir.

Q.—Is that shown by your statements furnished here, the amount in that account?

A.—If there is a balance sheet, it is shown on there.

Q.—Do you know whether you furnished a balance sheet?

A.—Not among my exhibits here.

Q.—Could you furnish that to the Commission?

A.—As of what date?

Q.—As of June 30, 1923?

A.—Yes sir.

Q.—Do you know whether or not there was any value fixed on the property transferred to the Warfield Gas Co. by the United Fuel Gas Co. before it was transferred?

A.—The Kentucky property of the United Fuel Gas Co. was turned over to the Warfield Co. on the basis of the value shown on the books.

Q.—Book value?

A.—Yes sir.

Q.—Do you know the President of the Warfield Natural Gas Co.?

A.—Yes sir.

Q.—Who is it?

A.—W. R. Kay, Charleston, W. Va.

Q.—Who keeps their books?

A.—Their books are kept in the main office of the United Fuel Gas Co. at Charleston, W. Va.

Q.—Do you know what salary is paid by the United Fuel Gas Co.?

A.—No sir, I don't.

Q.—Could you furnish that information?

A.—I could secure it.

BY MR. ALTIZER:

The United Fuel Gas Co. for the present has charge of the Warfield Natural Gas Co., with a monthly sum as overhead expense estimated as its fair proportion of overhead expense. We do not make any pretense that the United Fuel Gas Co. is not operating the Warfield Gas Co. as a subsidiary.

Q.—In making up the annual income tax reports of the United Fuel Gas Co. for the years 1921-22 what amount or percentage did you charge there for depreciation of the

physical property of the Company separate from the depreciation of the gas acreage?

A.—Do you want the actual figure? I would have to secure it for you. I can give you a per cent.

Q.—What do you charge off for the depreciation and gas acreage?

A.—Naturally these two years an average of about 3%. It wasn't based on per cent, but happened to be that per cent. basis was the method to secure it.

Q.—Would you mind furnishing those figures?

A.—Yes sir, I will.

Q.—Did you take any new leases since July 1, 1919, on gas acreage?

A.—New leases? Yes sir.

Q.—And you have surrendered some since then, too?

A.—Yes sir.

Q.—I will ask you for that?

A.—Yes sir.

Q.—Do you include under the head of "buildings" the value of land?

A.—Buildings only.

Q.—And you carry a real estate account for the land?

A.—Yes sir.

WITNESS W. H. Weiss, after having been duly sworn, testified as follows:

BY ATTORNEY JOHN T. DEERBACH:

Question.—What is your name?

Answer.—W. H. Weiss.

Q.—Are you the same Mr. Weiss that testified in Case No. 13 before this Commission?

A.—Yes sir.

Q.—Mr. Weiss, have you prepared for the City of Cattlettsburg, City of Ashland, and Cities of Louisa and Russell a report on the natural gas rates in those cities?

A.—Yes sir.

Q.—Is the present action before the Commission?

A.—I have

Q.—Will you tell in your own way to the Commission how you arrived at the conclusions and prepared the tables and other matter contained in your report?

A.—The computation of figures include operating revenue and expenses. The investment December 5, 1932, and as of June 30, 1933, of the United Fuel Gas Co. was furnished then the City Attorney of Ashland, who obtained same from the United Fuel Gas Co. The report presented here to this Commission in this case begins by giving a brief historical report of the United Fuel Gas Company, including the proceedings before this Commission in October, 1931, in Case No. 10. It also sets forth the action of the West Virginia Commission on the several applications made by the United Fuel Gas Company since the year 1917 to date and quotes from opinions by the West Virginia Commission in its decisions on the several applications for rates which involved also valuation of the Company's property.

At Page No. 13 of the Report, under the heading of "Scope of the Report" it is stated that because there were issues in the case of great moment to the Company and to the other defendant, and acting under the instructions of the attorneys representing the other defendant, this Report deals with the physical and financial issues, also with the legal questions involved, and as an apology for citing court and Commission decisions and lengthy report, that fact is mentioned.

At Page No. 15 is stated briefly what the situation of the Company in this case is, viz., that the Company contends that the value of its property in the same for rate making, for sale, or for any other purpose, that the minimum value of its tangible physical property is equal to the cost of reproduction, new, and making such estimated cost of reproduction, deduction for depreciation only to the extent of observed depreciation. Second, that it gives to the gas acreage at its market value, i. e., what, in the

opinion of its witnesses, it could be said for, and finally to the reproduction estimate and market value should be added a further amount representing the value of its business, viz., from the fact it is an assembled plant doing business and earning money.

I want to say that in Case No. 13, wherein I represented these cities, the actual cost was shown by the books of the Company plus the addition of 20% for overhead cost; the 20% of given value without any deduction for accrued depreciation was taken as the rate basis. In that case, as far as I remember, there was no estimation for reproduction cost.

I adopted that method because it had been followed in West Virginia, and also because in my opinion it was eminently fair to the Company in view of the fact that it had from the year 1906 to the period then under review about 20% made large additions and extensions to its property due to the growth of the business, to some extent, no doubt, under the great demand for gas during the war time. I believe at that time by taking the actual investment including war time prices, plus additions of 20% for overhead and growing value, which figures were estimated from sums under testimony given by either side, that these additions were necessary, and were on a good measure, I decided to adopt them in making sum deduction for depreciation, which figure at that time showed very little difference between the figures arrived at under actual cost and under reproduction. I may say at that time, in making valuations on reproduction, we usually adopted an average price covering a period of years—say five years back and two or three years beyond, taking an average of figures, and on this price determine what was the reproduction cost.

This case, however, as I just stated, seems to rely upon the establishment of a rate based on the present or at least recently present cost of reproducing property. We have incorporated in the report under page 63 a table setting forth the property beginning with the year 1906 and showing the amount of additions each year to and in-

cluding June 30, 1922. We separated the physical tangible property from the gas acreage and from the right-of-way. We would have separated the land upon which the buildings are located, had it been possible to determine that from the investment statement furnished. I am very sure the Company furnished the statement in the manner in which they keep their books, therefore, estimate of the buildings includes the real estate.

We then took the actual cost and determined by a set of computations about how much land there was included in these buildings. We took about 50% of the buildings as land or real estate. We then had access to a study of present time prices based upon the Bureau of Labor and Statistics. We projected this back to 1896 on the theory that prices began to advance in 1896, and if it had been under war prices, would nevertheless gradually count up. That is set forth in this Report in tables and by figures and under an explanatory table as to how these figures were determined. We then took all the investment of the property and translated the 1922 investments to present time prices, that is all that the Company had invested up to 1915 inclusive. I may say that we made an adjustment in something like Seventeen Hundred Thousand Dollars, which the Company had transferred from operating expenses to capital account. It ought to be stated that the Company made this change in the capital account following the criticism of their method of keeping this account. It is no doubt a proper charge, but we projected back into 1915 investment in order that we would share in the increased prices. That for 1922 gave us a factor equivalent to 55% increase over actual investment up to 1915, that then was the same factor made since 1916, assuming that to have been the war period. In all cases, except one year, we showed a slight increase, and in one year showed a decrease, where increase was made to where decrease took it. That is set forth in a table.

We then constructed, based on these tables, Table No. 7, which for 1922, by using Table 7, page 62a, we took the depreciation from Table 6 and got a value of $237,297.67;

to that we added an overhead construction cost charge of 15%. We did the same to June 30th, which gave us $239,-352.06; we added 15% overhead to that. That gave us a total for 1922 of $26,138.82, and for June 30th, 1923, $275,-243.37; from that we deducted accrued depreciation.

These figures used apply to physical tangible property, and do not include land acreage or right-of-way. We then added the land after appreciating it 60%; we then added rights-of-way after appreciating this 33-1/3%; we then added gas lease-hold acreage at back figure costs without depreciation working capital and incompleted construction as of December 31, 1922, and as of June, 1923. We then constructed Tables No. 8, 9, 10, at pages 70a, 70b and 70c respectively. Table No. 8 adopts as rate basis December 31, 1922, $28,500,000, and Table 8 distributes these valuations to total property and shows at line 33 to 39 inclusive, the earnings. Line 32 shows the amount required for 8% return on rate basis for the property as a whole, and in the several divisions, including the cities defendant. Line 33 shows gross income in excess of 8%. Line 35 shows amount required for 10%. Line 36 shows gross income. Line 38 shows the rate in cents per thousand cubic feet required to yield 8% in the defendant cities respectively, and Line 39 shows the rate per thousand cubic feet required to yield 10% in these several cities.

Table 9 includes the same information as of June 30, 1923, based upon Thirty Million Dollars as the rate basis, and Table No. 10 gives the same information as of June 30, 1923, based upon Thirty-Four Million Dollars rate basis, which has been arbitrarily adopted by us following the last ruling by the West Virginia Commission.

We have also constructed Table 11, page 70d, by taking the physical tangible property as of December, 1915, this land, right-of-way and gas lease-holds and adding 33-1/3% for depreciation, then the additions of property January 1, 1916, to December 31, 1922, and adding thereto overhead construction costs, deducting from the total thereof accrued depreciation, adding back the land at cost plus 60% of depreciation right-of-way at cost of 33-1/3 depreciation,

gas land operated and unpaid acreage of gas without deduction for depreciation working capital and incompleted construction.

Table 12 takes the Wyer Exhibit No. 1 as of January 1, 1920, inclusive of the gas lease-hold acreage with adjustments with reference to maps only, and after deducting 20% overhead cost so as to get a comparable figure with the deduction cost with appreciation of that property which is intended to cover all property in existence as of January 1, 1920, 61.2%. We then make the additions of property in the year 1920 at cost reducing them according to all commodity figures, to the additions for property in the year 1921, with increase to 1923 level additions to 1922 increased to 1923, levels additions for 1923 to that same overhead cost accrued depreciation, add acreage of back cost and incomplete construction, gives us a figure of $31,403,871.

We also show Table No. 13, whereunder we take the investment of the Company as of June 30, 1923, unadjusted amount that we did not make in time, deductions for cost of financing or same item headed Adjustment Appreciation accrued prior to June, 1917. We then add back the amount plus 60% of appreciation and get a rate of say 33-1/3% appreciative working capital growing concern capital basis of $301,369.24. In that case there are no additions for construction, overhead cost and no deduction for accrued appreciation.

This table follows the Georgia Railway Light Company case decided by the Supreme Court recently.

We next take up an analysis of the Wyer Exhibit No. 3, page 72 and have prepared Table No. 14, which table was constructed as nearly as possible to follow a form adopted by Mr. Wyer so as to make it comparable with this Exhibit, using, however, the information as to revenue operating expenses, according to the Company's books. We find the difference between Mr. Wyer's Exhibit No. 3 of his total operating expenses and the figures furnished by the Company, $506,925. Table 14 adopts these figures as being correct. Other tables are statement of gas purchased except for the six months period ending June, 1923, which we were

unable to show because we inadvertently overlooked to ask the Company to furnish it. I am satisfied they would not have furnished it.

Tables 16, 17, 18, 19, 20 and 21 show repectively the gas investment in acreage, gas investment in Kentucky distribution system, gas sales in cubic feet for 1921-22, the first six months of 1923, operating commercial expenses 1921-22, and first six months in 1923, in the Kentucky cities; also in Ironton and Ironton Division. Table 21 shows capital stock of the Company.

At pages 61-3 we discuss the Wyer Exhibits on reproduction cost and comment upon the fact that both exhibits cover a period of January 1, 1920. Just what the purpose was of reproduction as of January 1, 1920, to 1923, we do not know about at this time.

BY MR. ALTIZER:

That was because it had been prepared for another purpose. I want to say this, that if the Company wishes to examine me afterwards pertaining to this, I shall be glad to be available to them.

At this point the Report was offered in evidence.

Mr. Altizer objected to the introduction of said Report on the ground that it contained many irrelevant matters, some of which are highly misleading; that if the Commission desires it, he will specify more in detail in writing the reasons why they object.

The above objection was overruled by the Chairman.

BY MR. ALTIZER:

Question—I ask you to be certain we understood a few things. If I understand correctly, in no one of your calculations in which you use a rate of return of net earning or rate basis, do you use any value for the gas leasehold estates.

Answer—Nothing above cost.

Q.—Except cost?

A.—Except cost.

Q.—Have you in any case recognized any appreciative value?

A.—No, sir.

Q.—You don't mean to be understood as saying that there has been no appreciation in their value?

A.—I couldn't say, I don't think so myself.

Q.—Upon what do you base that statement?

A.—I am basing it wholly on the testimony developed in this case based upon the exchange value, what you could sell it for.

Q.—You don't base it upon any knowledge of what it could be sold for?

A.—No, sir.

Q.—You think its market value is of no materiality?

A.—No, sir.

Q.—And your Report is constructed upon that basis?

A.—Yes, sir.

Q.—Would your opinion of that be different if the gas lands were under any company instead of under lease-hold estates?

A.—No, sir.

Q.—Your idea is that a natural gas utility is not entitled to earn a return upon the present market value of lands or lease-hold estates for gas held by it above the cost thereof no matter what that difference may be?

A.—By "Lands" you mean gas leases?

Q.—Mineral land for the production of gas?

A.—These have been used for public service and dedicated to that use.

Q.—Page 70b, I call your attention to it. Where you say the rate should be charged to this city only furnished certain returns. Table 8. I want to call your attention to what strikes me as a remarkable lease. This is your final conclusion from all the data used in the previous reports. You have found in your method of calculation that a rate per thousand feet required to yield a return of 8% would be in the City of Ashland 20.7; in the City of Catletts-

burg 25.8, and in the City of Louisa 21.5, and in the City of Russell 23.8, and what you term Ashland Division 17.1 Now Catlettsburg is some six miles nearer to West Virginia than Ashland, isn't it?

A.—Yes, sir.

Q.—They are contingent cities?

A.—Yes, sir.

Q.—And Catlettsburg is nearer one of the two, and the gas supply that makes no difference, doesn't it strike you that there is something wrong in the method of calculation which would show you a difference of five cents a thousand in the price of gas in these two towns in order to give the same return on the investment?

A.—No, sir, when you consider the sales spread over the investment, and therefore, rates and price per thousand cubic feet.

Q.—Bring it to the city itself, distribution expenses would be practically the same in these two places, wouldn't they?

A.—If you go according to distance.

Q.—Any difference would be in favor of Catlettsburg?

A.—On the same volume of sales theoretically have some advantage being six miles nearer. We give no consideration to distance, but if you permit me, I will state that the investment at Ashland per thousand cubic feet amounts to less than sales come to; therefore, there is a greater amount of property per thousand cubic feet to Catlettsburg than to Ashland. I went back and rechecked that.

Q.—It struck you as it did me that something must be wrong, didn't it?

A.—Yes, sir, but upon checking it, I didn't find it wrong. You may find it wrong; I would be glad if you will correct it.

Q.—Do you know something about natural gas rates at other places?

A.—As general information, yes, sir.

Q.—You know it is not generally regarded that anybody can sell gas at the prices you show on this table today and make 8%?

A.—I couldn't answer that Mr. Altizer, on a basis of per cent because I don't know, but I will say it looks cheap, looks low for natural gas. That is the way the figures come out. You must bear in mind I am just showing what the figures show.

Q.—You allow the same for depreciation and appreciation?

A.—Six per cent.

Q.—On certain parts?

A.—On everything except land.

Q.—Would it influence your judgment any, if the fact were known to you that the Federal Government allows a depletion as distinguished from depreciation, and by depletion, I mean, deduction of earnings upon the value of the gas itself that the Government allows as taken from income, a sum in excess of the total amount you allowed here for depletion. I mean this; that the Government in ascertaining your net income subject to tax, allows a sum for depreciation or deterioration on pipe lines with which I am concerned. It allows also a sum for depletion of these lines per annum greater than you have put in your calculation as the entire depreciation on the whole property?

A.—Yes, sir, I am aware of it. I do not regard the Government allowance for depletion or depreciation as fixing the amount to set aside by the Company, a corporation, nor is that amount deducted from the price which is purely an arbitrary figure determined by the Government for tax purposes.

Q.—The difference between you is that the Government gives some consideration to the value of the land instead of the cost?

A.—Industrial plants depreciate 10%, it does not mean land, the plant depreciates.

Q.—Means that much is set aside as a reserve?

A.—You know, if you made a report to the State of West Virginia. I ran across a case in New York where depreciation was 30% and the Company reported to the Tax Commission 40% depreciation. I don't think that is right, and does not influence me, and I don't think it influences anyone investigating rate cases.

Q.—You do not profess to have any personal knowledge of this property?

A.—No, sir.

Q.—You take an aggregate depreciation and use a case in which the same matters occur?

A.—No, I made a computation of the average expired life of your property 8 years or more. The highest estimate given in your property was 20 years, an average of about 16 years. At that time on straight line appreciation, you could deduct 5% per annum depreciation. I don't take that. I take 30% basis on 8 years expired life. In short life property, we adopt a short life method; on the other hand, it might be said that your Company sets aside an average of about 6% per annum as a reserve and average percentage you are basing on 16-2/3 years life. In this computation of depreciation, we have not considered that if your business stopped by virtue of the fact that you had no more gas, that you could sell some of your property as salvaged. I am one of the people in this profession who do not believe in conducting salvage. If your gas should become exhausted, you might put in artificial gas, so in reaching this conclusion I adopted 30%. You know, of course, Commissions in other States on natural gas have deducted percentage averaging that or greater.

Q.—I don't yet understand the deducting of operating expenses?

A.—I didn't change it any. I adopted the figures without any correction.

Q.—On Table 8 at Line 18 there is an item of $3,168,000.00?

A.—That is for distribution expenses.

Q.—You didn't regard operating expenses with gasoline?

A.—No sir. I didn't regard that in this case at all.

Q.—In the index?

A.—I mentioned the fact that the cities did not give any consideration to that. I felt it my duty to do that notwithstanding that I did not waive the right to do so.

Q.—In these calculations you have ignored it?

A.—Yes, sir.

RAILROAD COMMISSION,
STATE OF KENTUCKY.

I, Pauline Klaren, duly appointed Official Stenographer for the Railroad Commission of Kentucky, hereby certify that the foregoing evidence in the cases of Warfield Natural Gas Co., a corporation of Kentucky, v. City of Ashland, City of Catlettsburg and City of Louisa, each a municipal corporation of Kentucky, and United Fuel Gas Co. v. Cities of Ashland, Catlettsburg and Louisa, heard before the Railroad Commission of Kentucky at its regular meeting on November 14, 1923, at Frankfort, Kentucky; that the foregoing 33 pages constitutes a true, correct and accurate transcript of all the evidence introduced and heard, and offered to be introduced and rejected; that said transcript contains all the exceptions, objections and avowals concerning the same at the time made or saved, as well as all papers and exhibits offered to be or used, or rejected, as evidence in the said case.

WITNESS my hand this December 5th, 1923.

PAULINE KLAREN,
Official Stenographer,
Railroad Commission of Kentucky.

November 17th, 1923.

Mr. W. J. Hightower,

Charleston, W. Va.

Dear Mr. Hightower:

Herein are the questions which I desire to look up and answer so that they may be made a part of the record before the Railroad Commission:

Question 1. Explain the difference between the operating expense item given by you in answer to our question E. and as furnished me and that given by Mr. Wyer in his testimony before the Commission at Frankfort, you gave it as $3,630,845.31, Mr. Wyer, as shown in his Exhibit No. 3, $4,137,770.00, all of these figures are for the year 1922. Also if you have available the figures as given by the accountants for the City of Charleston and Huntington for the year 1922, will you attempt to explain the difference between those figures which are $3,363,126.40 for the same year and item and the figures as given by you and also Mr. Wyer in his Exhibit No. 3?

Q. 2. At line 9, on sheet in answer to question E under the heading General Taxes, the item is given as $581,009.87, is that the taxes that were properly charged to the 12 months comprising the year 1922 or was it an accrual of 15 months taxes? Also is there any other amount of the total that should be apportioned or assigned to any other department than the gas department?

Q. 3. Please show the account to the credit of depreciation and depletion.

Q. 4. Please give the percentage of depletion annually on the gas acreage and upon what value same is based.

Q. 5. Please state whether the money set aside as depreciation and depletion is on hand or what disposition has been made of it.

Q. 6. There are as I understand it Non-operating revenues for the year 1922 of approximately $[illegible]. please explain of what this consists.

I would appreciate it, if you would make this statement in 5 copies to be used by us.

Thanking you in advance for this information, I am,

Yours very truly,

City Attorney.

[redacted]

[redacted]
[redacted]
[redacted]

[redacted]

[redacted]

1. [redacted]

[redacted]

2. [redacted]

3. [redacted]

4. [redacted]

Engineer, of Pittsburg, and he arrived at it f this year by his estimate of the value of the gas in t' ground per unit, from which he ascertains the value the quantity produced each year.

5. The depreciation reserve fund has not been set aside in cash nor distributed to the stockholders, but is used in the conduct of the business for additions, improvements, etc.

6. The non-operating revenue of $12,000.00 consists of income other than a direct revenue from ordinary operations, such as items for sale of material, rental on real-estate, etc.

Very truly yours,

R. G. ALTIZER.

[fol. 746] IN UNITED STATES DISTRICT COURT

ORDER DESIGNATING DISTRICT JUDGE—Filed Dec. 29, 1923

To the Honorable Smith Hickenlooper, Judge of the District Court of the United States for the Southern District of Ohio:

Whereas it satisfactorily appears to the undersigned that the Honorable A. M. J. Cochran, Judge of the District Court of the United States for the Eastern District of Kentucky, is disqualified from sitting in the cause pending in the last-named court entitled United Fuel Gas Company and Warfield Natural Gas Company, Plaintiffs, vs. The Railroad Commission of Kentucky, Frank N. Burns, Oscar Vest and Isaac Wilder, members of and constituting said Railroad Commission, and Thomas B. McGregor, Attorney General of the State of Kentucky, Defendants; and whereas, in my judgment, the public interest requires the action hereby taken,—you are hereby designated, pursuant to the provisions of Sections 14 and 17 of the Judicial Code, to have and exercise within said District, and in said cause, and in the various proceedings arising therein, the same powers that are vested in the Judge of said District Court for the Eastern District of Kentucky, from and including the 28th day of December, 1923, to and including the 28th day of March, 1924. Dated at Grand Rapids, Michigan, December 27, 1923.

Loyal E. Knappen, Senior United States Circuit Judge, Sixth Judicial Circuit.

[fols. 747 & 748] No. 3

Temporary restraining order appears in the transcript of orders later in this record.

[fol. 749] IN UNITED STATES DISTRICT COURT

[Title omitted]

ANSWER TO BILL OF COMPLAINT

I

Come the defendants, The Railroad Commission of Kentucky, Frank N. Burns, Oscar Vest and Isaac Wilder, members of and constituting said Railroad Commission, and Thomas B. McGregor, Attorney General of the State of Kentucky, and for answer to the First Paragraph of the Bill of Complaint, filed herein, state that it is true that the plaintiff, United Fuel Gas Company, is a corporation created and existing under the laws of the State of West Virginia, with its principal office in the city of Charleston, in said State, and

that the plaintiff, Warfield Natural Gas Company is a corporation created and existing under the laws of the State of Kentucky, with its principal office in the city of Catlettsburg, in said State, and in [fol. 750] the Eastern District thereof; that the Railroad Commission is a body created and existing under the Constitution and Statutes of the Commonwealth of Kentucky, and maintains its office at Frankfort, Kentucky, in the Eastern District of said State; and that Frank S. Burns, Oscar Vest and Isaac Wilder constitute said Commission and are the duly elected, qualified and acting members thereof; that each of said members is a citizen of the State of Kentucky; that said Burns is a resident of the city of Paducah, in the Western District of said State; that said Vest is a resident of Carrollton, in the Eastern District of said State, and said Wilder is a resident of Booneville, in said Eastern District.

The defendant says that Thomas B. McGregor is a citizen and resident of the State of Kentucky, and was the former Attorney General of said State, and did and does reside at Frankfort, in the Eastern District of said State, but that since the filing of said Bill of Complaint the said McGregor has been succeeded in office by the Honorable Frank E. Daugherty, of Bardstown, Kentucky, who is a citizen and resident of the Western District of said State, and who is the duly elected, qualified and acting Attorney General of the State of Kentucky.

II

The defendants for answer to the Second Paragraph of the Bill of Complaint admit that the said Railroad Commission did issue an order to and against the plaintiff, United Fuel Gas Company, but denies that it issued any order to or against the plaintiff, Warfield Natural Gas Company, in fixing the rates that said Company should furnish gas to its customers in the cities of Ashland, Catlettsburg and Louisa in the State of Kentucky; denies that both or either of said orders are in violation of the Fourteenth Amendment of the Constitution of the United States, or in violation of the Constitution of Kentucky, denies that the rates so fixed were unreasonable or unfair.

They admit that they did issue an order prohibiting said companies [fol. 751] from withdrawing from the State of Kentucky or to withdraw from rendering services to the public in the communities in which they operate, but deny that said orders or any orders complained of or otherwise were without any ascertainment or finding of property value belonging to either of said companies, or that the said Commission failed and refused to give any consideration whatever to competent evidence of such value introduced before it by these plaintiffs, but says that upon the questions involved in Paragraph 2, Bill of Complaint, a full and complete hearing was had by said Commission, and that the United Fuel Gas Company and the Warfield Natural Gas Company were each notified of said proceeding and appeared and was heard, and that after they presented such information as they desired to said Board that said Board, upon

such information, pleadings and evidence, rendered its decision; that neither of said companies took any further steps in regard to such matter, but adopted such rates as were ascertained and fixed by said order of the Railroad Commission and operated thereunder from said time until the filing of the Bill herein.

III

For answer to the Third Paragraph of the Bill of Complaint, the defendants admit that the plaintiff, United Fuel Gas Company is and has been for a number of years last past engaged, among other things, in the business of mining for, producing, transporting, marketing and distributing to the purchasers and consumers thereof natural gas; admits that for such purpose it owns and holds lands, leasehold estates, pipe lines, compressor stations, tools, machinery and other equipment necessary for the conduct of such business; that the greater part of said lands and other property are located in the State of West Virginia, but says that a portion of said real estate and other property are located in the State of Kentucky; that it is true that some of the property of the United Fuel Gas Company is located in the State of Ohio.

Defendants admit that the plaintiff, Warfield Natural Gas Company, was organized under laws of the State of Kentucky on or about [fol. 752] the 8th day of February, 1922, as a subsidiary of the plaintiff, United Fuel Gas Company, and that said plaintiff, United Fuel Gas Company, is at this time and has been at all times since the incorporation of said Warfield Natural Gas Company the owner of all of the shares of the capital stock of said Warfield Natural Gas Company, except three shares of capital stock held by each of the five members of its Board of Directors, but they say that the said Warfield Natural Gas Company was organized and incorporated, as stated in the Bill of Complaint, for the sole and only purpose of avoiding the laws of the State of Kentucky and to prevent the Railroad Commission of the State of Kentucky, under the laws of said State, from regulating the sale and transportation of the product of the United Fuel Gas Company, and that same is a fraud upon the State of Kentucky.

The defendants admit that on the 28th day of June, 1923, the plaintiff, United Fuel Gas Company, by deed, sold, transferred and conveyed to the plaintiff, Warfield Natural Gas Company, all of the property of every character then owned by the plaintiff, United Fuel Gas Company, situated in the State of Kentucky, including in said conveyance so much of the natural gas pipe lines as were within the State of Kentucky at that time previously owned and operated by the United Fuel Gas Company for the transportation of natural gas from the points of its production in the State of West Virginia to points in the State of Kentucky and beyond and including also all of the mains, regulators, meters, lands, buildings, offices and equipment used at that time and previously by said United Fuel Gas Company in furnishing and distributing natural gas to consumers thereof in

said cities of Ashland, Catlettsburg and Louisa, in the State of Kentucky.

The defendants deny that after the execution and delivery of said conveyance, the plaintiff, United Fuel Gas Company withdrew from or ceased to engage in the business formerly conducted by it in the State of Kentucky, or ceased to conduct any business whatsoever in the last mentioned state; denies that it cancelled in due form the appointments previously made by it of any or all agents upon whom [fol. 753] process against it might be served; denies that it gave notice of such cancellation to the Secretary of State of said State, or complied with all the formalities of law necessary for the purpose of withdrawing from or ceasing to engage in business in said State of Kentucky; denies that it has not since at any time engaged in any business whatsoever in said State.

Admits that the Warfield Natural Gas Company accepted the conveyance, as above set forth, but denies that it has at all times since conducted the business formerly conducted by said Warfield Natural Gas Company in said State of Kentucky, including that of furnishing natural gas to consumers or users thereof in said cities of Ashland, Catlettsburg and Louisa; denies that said Warfield Natural Gas Company is now the owner of said property so conveyed to it or of any additions made thereto since the date of said conveyance or is at the present time engaged in supplying natural gas to consumers thereof residing in each of the said three cities, but says that the conveyance referred to herein and in the Bill of Complaint was made and entered into by the United Fuel Gas Company and the Warfield Natural Gas Company for the sole and only purpose of practicing a fraud upon the citizens of Kentucky, and especially of the cities mentioned herein and to evade the law of Kentucky and the rules and regulations of the Railroad Commission of such State, that the Warfield Natural Gas Company never was at any time the real and true owner of the properties mentioned in the Bill of Complaint and in this answer.

Admits that all the natural gas which the plaintiff, Warfield Natural Gas Company has supplied for consumption in any one of the said three cities, and all the natural gas supplied thereto for a number of years previous to said pretended conveyance of June 28, 1923, by the United Fuel Gas Company to consumers in any one of said three cities was produced from lands located in the State of West Virginia, denies that neither of the plaintiffs have available for such purpose any other source of supply. Admit that contemporaneously with the execution delivery of said pretended conveyance of June 28, 1923, the plaintiffs entered into a contract between themselves [fol. 754] by which the plaintiff, United Fuel Gas Company agreed to sell, and the plaintiff, Warfield Natural Gas Company, agreed to purchase at a point near Kenova, in the State of West Virginia, near the boundary line between the states of West Virginia and Kentucky, such quantities of natural gas as might be demanded by said Warfield Natural Gas Company for sale to its customers to the extent that said United Fuel Gas Company might be able to furnish

same, taking into consideration its obligations to supply gas elsewhere and for other purposes, at a price and upon terms fully set forth in said contract; but the defendants say that said contract was a pretense and made and entered into between the plaintiffs for the sole and only purpose of practicing a fraud upon the State of Kentucky and the citizens thereof, and especially the citizens of the three cities named, and to prevent the Railroad Commission of the State of Kentucky from regulating said companies or enforcing the law pertaining to natural gas companies, and the fact is that if such contract was made and entered into it was merely the United Fuel Gas Company contracting with itself

IV

The defendants for answer to the Fourth Paragraph of the Bill of Complaint herein admit that the United Fuel Gas Company commenced the furnishing of natural gas to consumers thereof in the cities of Ashland, Catlettsburg and Louisa, in the State of Kentucky, in the month of September, 1909. Admit that said United Fuel Gas Company purchased the municipal franchise of said cities authorizing the use of streets for such purpose, granted by the councils of said several cities to the predecessors in ownership of said plants; admit that all of said franchises have expired in the cities and on the dates set out in the Bill of Complaint; admit that after the expiration of said several franchises that the plaintiff, United Fuel Gas Company, continued to maintain its pipes and other appliances in the streets of said cities and to furnish natural gas as theretofore to the inhabitants thereof until the sale of said plants to the plaintiff, Warfield Natural Gas Company.

[fol. 755] Denies that since said sale the plaintiff, Warfield Natural Gas Company, has continued to maintain said pipes and appliances in said streets, or to furnish natural gas service to the inhabitants of said cities, or is furnishing such service at the present time, but says that the United Fuel Gas Company in fact and truth continued to operate said pipe lines and appliances and to furnish said gas to the inhabitants of said cities and that it has been done through the name of the Warfield Natural Gas Company for the sole and only purpose of practicing a fraud upon the State of Kentucky and to avoid the orders, rulings and directions of the Railroad Commission of said State, lawfully made and directed by said Commission.

V

The defendants for answer to Paragraph Five, of the Bill of Complaint, admit that the General Assembly of the Commonwealth of Kentucky, at its regular session in the year of 1920, enacted a statute known as Chapter 61 of the Acts of the General Assembly of 1920, entitled

"An act to repeal and re-enact Chapter 18 of the Acts of 1916, which is an act prescribing the duties and powers of the Railroad

Commission with reference to express companies, steamboats and steamboat companies, telegraph companies and telephone companies, and all boats and other water craft propelled by the use of oil, gasoline, or other means, so as to prescribe the duties and powers of the Railroad Commission with reference to express companies, steamboats and steamboat companies, telegraph companies and telephone companies, natural gas companies and natural gas transportation companies, and all boats and other water craft propelled by the use of oil, gasoline or other means.'"

Defendants deny that said statute contains a number of provisions not embraced within said title relating to the duties and powers of the Railroad Commission. Admits that said law prescribes duties to be performed by and imposes obligations upon persons and cor- [fol. 756] porations engaged in the business of distributing, furnishing and selling natural gas; denies that said law includes other matters not referred to in said act in violation of Section 51 of the Constitution of the Commonwealth of Kentucky. Admits that Section 23 of said Act is as set out in the Bill of Complaint. Admit that said Act grants to the said Railroad Commission power and authority to investigate, upon complaint, whether any company engaged in the distributing, furnishing or selling of natural gas is collecting or receiving extortionate rates, and that upon a finding that such rates being collected to fix a just and reasonable rate for the furnishing and selling of natural gas thereafter furnished or sold; admits that said Act provides that any company, its officers, agents or employes, charging, collecting or receiving a greater or higher rate than that so fixed by said Railroad Commission shall be guilty of extortion, and upon conviction shall be fined for the first offense any sum not to exceed $1,000.00, for the second offense any sum not to exceed $2,000.00, and for a third and succeeding conviction any sum not to exceed $5,000.00. Admit that said Act provides that it shall be unlawful for any company mentioned in the Act to charge, collect or receive more than a just or reasonable rate for the distributing, furnishing or selling of natural gas, or to give any undue or unreasonable preference or advantage to any particular person or locality, and provide for prosecutions and fines for violation of the Act.

VI

For answer to the Sixth Paragraph of the Bill of Complaint, the defendants admit that on the 28th day of April, 1920, the City of Catlettsburg, acting under said Act aforesaid, filed a complaint against the United Fuel Gas Company, in which complaint it was alleged that the rates then being charged by the Warfield Natural Gas Company for natural gas furnished to consumers of said city for domestic use was unreasonable, unjust and extortionate, and prayed that an order be entered by said Commission establishing a reduced rate to be thereafter charged. Admit that the cities of [fol. 757] Louisa and Ashland, Kentucky, filed intervening petitions

with said Railroad Commission, making similar allegations, and praying for similar relief against the United Fuel Gas Company; admit that at the time of filing of the several complaints, and for some time theretofore, that the rate being charged by the United Fuel Gas Company for domestic use was 40 cents per thousand cubic feet, with a discount of 5 cents per thousand cubic feet for payment on or before the 10th day of the month for the gas consumed during the preceding month, said rate being the same in all three cities. Admit that the United Fuel Gas Company filed its motion in due time to dismiss said complaints, and each of them, upon the ground that said Commission was without jurisdiction to hear and determine the matters arising upon said complaints, and was without jurisdiction to grant the relief prayed, or any part thereof. Admit that the United Fuel Gas Company filed its answer in each of said complaints in which it denied the material allegations thereof and denying that the rates being charged by it were unjust, unreasonable, extortionate or discriminatory. Admit that testimony was introduced before the Railroad Commission on behalf of both the complainant cities and the defendant gas company, and thereafter said Commission on the 18th day of January, 1922, made and entered an order, as set out in the Bill of Complaint. Admit that on the 24th day of January, 1922, the United Fuel Gas Company filed with the said Railroad Commission its petition for re-hearing, praying that said order be revoked and set aside. Admit that the averments were made in said petition for re-hearing, as set forth in the Bill of Complaint, but denies that the maximum rate fixed by the said Railroad Commission did not afford a fair or adequate return upon the value of the petitioner's property used and useful in such service; denies that said maximum rate so prescribed by said Railroad Commission was less than the reasonable value of service rendered; denies that said order was contrary to law or the evidence considered at such hearing; denies that said order was indefinite or ambiguous in two particulars, or any particular, but says that the said United Fuel Gas Company interpreted said order and has been charging and continues to charge for [fol. 758] natural gas at the rate it interpreted said Railroad Commission's order, and that said interpretation has been and is now being carried out by said United Fuel Gas Company without complaint upon the part of the Railroad Commission, and such rate as was fixed by the United Fuel Gas Company has been acquiesced in until the 28th day of June, 1923.

VII

For answer to the Seventh Paragraph of the Bill of Complaint herein, the defendants deny that the cost of producing or furnishing natural gas to consumers has during the last seven years increased tremendously, due to the increased cost of labor, materials or supplies common to industrial enterprises, generally, or in particular to causes peculiar to the natural gas industry, the chief of which are the constant decline in the average quantity of gas obtained from new

wells, as compared with those drilled earlier, and the constant decline in the rock pressure of the wells, necessitating additional compression of the gas at various points along the pipe lines in order to transport it to the place of consumption, or as a result of these conditions the rates customarily charged to consumers of natural gas throughout the parts of the country in which it is used have greatly increased. Admit that the gas-producing property of these plaintiffs is located in what is known to the natural gas industry as the Appalachian Field; admit that the States of Ohio and Pennsylvania are the chief consumers of the gas produced in said fields, but denies that in said States of Ohio and Pennsylvania that the average or customary rates charged to consumers of such gas have during the past three years, or at any other time, increased consistently or necessarily, corresponding to the exhaustion of the fields or consequent increased cost of production per unit; denies that the United Fuel Gas Company owns no gas lands or producing property in any other State than the State of West Virginia; denies that the Warfield Natural Gas Company is the owner of certain gas wells and gas leaseholds covering about forty thousand (40,000) acres of land in [fol. 759] the County of Martin, in the State of Kentucky, but says that said forty thousand acres of land in the county and state aforesaid are owned by the United Fuel Gas Company, and is held in the name of, if so held, the Warfield Natural Gas Company for the United Fuel Gas Company for the purpose of practicing a fraud upon the State of Kentucky to prevent the Railroad Commission of said State from controlling the United Fuel Gas Company by its orders.

Defendants further deny that the natural gas output from the producing property owned at this time by the Warfield Natural Gas Company is small compared with the output from the gas producing property which has been owned for a number of years or still remains in the ownership of the United Fuel Gas Company, and denies that the output from the property pretended to have been conveyed to the plaintiff, Warfield Natural Gas Company, during the past several years is only about 1/3 of the output from the entire property at this time owned by both plaintiffs.

Defendants further deny that the fair or reasonable present value of the property of the United Fuel Gas Company is at least the sum of $35,000,000.00, but say that the value of its property does not exceed $30,000,000.00; denies that the Warfield Natural Gas Company's property is worth at least the sum of $5,000,000.00, but says that its value does not exceed the sum of $—

Defendants deny that the present fair or reasonable value of that part of the property of said Warfield Natural Gas Company used in the furnishing of natural gas to consumers in the cities of Ashland, Catlettsburg and Louisa is approximately $550,000.00, but does not exceed $270,000; denies that the combined present fair or reasonable value of the property of the United Fuel Gas Company and the Warfield Natural Gas Company is at least the sum of $40,000,000.00, but say their combined value does not exceed $30,270,000.00.

Defendants deny that any rate of return upon the value of property used or useful in public service of supplying natural gas to consumers thereof, less than a rate of 16 per centum upon such value to [fol. 760] cover profit, depreciation, depletion and amortization is unreasonably low, or that property used in such service sustains depreciation and depletion, which should be charged against earnings equal to at least 6 per centum annually of the investment in or value of such property.

Defendants deny that the combined value for rate-making purposes of the property of the United Fuel Gas Company and the Warfield Natural Gas Company is at least the sum of $60,000,000.00, deny that the value of such property for rate-making purposes of the United Fuel Gas Company is at least the sum of $55,000,000.00, or that the value of the property of the Warfield Natural Gas Company for rate-making purposes is at least the sum of $5,000,000.00, deny that of the said combined value about 72½% is represented by production property and compressor stations, 21½ per cent in transportation, main and lateral lines, and 6 per cent is distribution plants; deny that in order to obtain a rate of 16 per cent upon the combined value of said properties over and above operating expenses to cover profit, depreciation, depletion and amortization, plaintiffs would be obliged to obtain annual earnings of $9,600,000.00.

Defendants deny that the actual earnings or expenses from the sale of natural gas by said company from said property during the past three years were as follows:

1920 gross earnings, $7,502,173.44; operating expenses, $3,705,756.93; net earnings, $3,796,416.51.

In 1921, $6,363,520.14; operating expenses, $3,306,322.71; net earnings, $3,057,187.43.

In 1922, gross earnings, $7,217,436.94; operating expenses, $3,545,676.03; net earnings, $3,671,760.91.

Defendants say that they are unable to state the gross earnings, operating expenses and net earnings of the said companies from said property for the years of 1920 and 1921, but that the books of said company should show said facts and they call upon the plaintiffs herein to produce such record of the said gross earnings, operating expenses and net earnings for the years of 1920 and 1921.

[fol. 761] The defendants say that in the year 1922, the net earnings of the said companies from said property was the sum of $4,590,723.22. Defendants further say that it is true that the sum of $2,000,000.00 per annum should be added to the net earnings of said company for each of the three years above mentioned, and when done that the net earnings for said company during the year 1922 would be $6,590,723.22.

Defendants further deny that during the next succeeding several years from said combined properties, it will be necessary, in order to obtain a rate of 16 per centum annually upon the value of said combined properties to cover profit, depreciation, depletion and amortization, that plaintiffs receive as in production cost per thousand cubic

feet, including as a part of such cost said 16 per centum rate, the sum of 23 cents, as the transportation cost the sum of 5 cents, or an additional distribution cost of 15 cents per thousand cubic feet, or a total of 43 cents per thousand cubic feet for the gas distributed to domestic consumers.

The defendants deny that 8,000,000 cubic feet will be sold to industrial consumers, with comparatively little or negligible distribution expense; deny that 29,000,000 cubic feet will be sold at wholesale to other companies without distribution expense, and the remaining 1,000,000 M cubic feet will be sold in the gas fields, with negligible transportation expense or no distribution expense.

Defendants deny that the gas now being distributed by the Warfield Natural Gas Company in the cities of Ashland, Catlettsburg and Louisa is or necessarily has to be transported a greater distance than the average distance which all natural gas furnished by plaintiffs to domestic consumers is transported, so that the cost of furnishing or supplying natural gas for domestic use in said cities of Ashland, Catlettsburg and Louisa is at least as great or is in fact somewhat greater than is the average cost to the plaintiff of furnishing natural gas to all of their domestic consumers.

VIII

Defendants for answer to the Eighth Paragraph of the Bill of Complaint herein say that the contract made and entered into by the [fol. 762] United Fuel Gas Company and the Warfield Natural Gas Company of date July 1, 1923, in which the United Fuel Gas Company agreed to furnish the Warfield Natural Gas Company natural gas at the rate of 30 cents per thousand cubic feet was a fraud and made and entered into for the purpose of practicing a fraud upon the State of Kentucky and the citizens thereof and to evade and avoid the rulings of the Railroad Commission of said State and the regulations of said Railroad Commission deny that the price of 30 cents per thousand cubic feet provided in said contract was or is a reasonable or moderate price. Deny that same does not exceed the reasonable value of said gas at the point of delivery thereof; deny that in order for the plaintiff, Warfield Natural Gas Company, to obtain a rate of return of 16 per centum thereunder above operating cost upon the present value of the facilities and equipment used or necessary for the transportation of said gas from the point of delivery and distribute same to the domestic consumers in the cities of Ashland, Catlettsburg and Louisa, such 16 per centum per annum to include profit, depreciation and amortization, it would be necessary that to receive a rate of approximately 45 cents per thousand cubic feet, being 15 cents per thousand in excess of the price paid by it to the plaintiff, United Fuel Gas Company.

Defendants further deny that the Warfield Natural Gas Company pays anything to the United Fuel Gas Company per thousand cubic feet for said natural gas.

IX

For answer to the Ninth Paragraph herein, defendants admit that the Warfield Natural Gas Company did cause to be printed, published, and posted a schedule of the rates which it would charge for natural gas at all points previously operated in the State of Kentucky by the United Fuel Gas Company, which schedule provided for a rate for natural gas for domestic use, supplied in the cities of Ashland, Catlettsburg and Louisa of 45 cents per thousand cubic feet, subject to a discount of 5 cents per thousand for payment on or before the 10th day of the month for the gas consumed in the pre-
[fol. 763] ceding month, to be effective on the 1st day of August, 1923, but they deny that said printed schedule was more than thirty days previous to the 1st day of August, 1923, filed with the defendant, Railroad Commission, in the form prescribed by said Commission, or likewise filed within the same period a copy of said schedule with the City Clerk or Recorder of each of said cities, or within the same period posted a copy thereof at each of the offices of said Warfield Natural Gas Company where bills were collected, but say that the said Warfield Natural Gas Company offered to file said schedule with the Railroad Commission and the said Railroad Commission, acting within its authority, refused to permit said schedule to be filed with it.

X

Defendants further answering Paragraph Ten, Bill of Complaint herein, say that the cities did adopt resolutions to contest the legality of the rate so published by the said Warfield Natural Gas Company, because the proposed schedule rates of said company were improper, unreasonable, unjust and extortionate. Admit that on the 11th day of July, 1923, the United Fuel Gas Company, through its attorneys, appeared before the defendant, the Railroad Commission, and filed its motion in writing with said Commission, asking that it revoke and set aside its order above mentioned of the 18th day of January, 1922, and in support of said motion said United Fuel Gas Company caused it to appear to said Commission that the conveyance above mentioned of June 28, 1920, from said United Fuel Gas Company to said Warfield Natural Gas Company had been made and that the latter company had filed with the Commission, posted and published the schedule of rates which it would charge commencing on the 1st day of August, 1923. Admit that said Commission did not at that time take any action with reference to said motion.

Defendants admit that the Warfield Natural Gas Company on or about the 29th day of August, 1923, filed with the Railroad Commission its petition setting up the facts hereinbefore mentioned with
[fol. 764] reference to its acquisition of the distributing systems in the State of Kentucky formerly operated by United Fuel Gas Company, the facts with reference to the contract between it and said United Fuel Gas Company for the purchase of gas hereinbefore stated with reference to the printing, filing and posting of the

schedule of rates of said Warfield Natural Gas Company, averring that said rates appearing in said schedule would be on and after August 1st, 1923, until changed in some lawful way, the lawful rates to be charged in said cities, averring that the rates so proposed to be charged, as shown by said schedule, was a just and moderate rate and that any less rate would be unjust, unreasonable and confiscatory, and in particular that the reduced rate prescribed by the order of said Commission of January 18, 1922, if operative upon said petitioner, which was denied, would be unjust, unreasonable and confiscatory, and averring other facts and circumstances showing, or tending to show the reasonableness of said rate of 45 cents gross or 40 cents net, and praying in said petition that said Commission enter an order vacating and setting aside its order of January 18, 1922, in the proceeding in which the said United Fuel Gas Company was defendant, and, in the alternative that said petition might be regarded as the application of the Warfield Natural Gas Company under Section 23 of Chapter 91, Acts of the General Assembly of Kentucky for the year 1920, above referred to, for permission to the petitioner from said Commission to withdraw its service from each of said municipalities.

Admit said cities of Ashland, Catlettsburg and Louisa were made defendants to said petition and were given due notice of the filing thereof that said cities appeared before said Commission and answered said petitions, and a hearing was had thereon. Admit that in their answers to said petition said cities claimed that the order entered by said Commission on January 18, 1922, in the proceeding in which said United Fuel Gas Company was the defendant, was binding upon not only the United Fuel Gas Company but the plaintiff, Warfield Natural Gas Company, as its successor; that any rate charged by the Warfield Natural Gas Company in excess of that [fol. 765] prescribed by said order of January 18, 1922, was unlawful; that these plaintiffs had violated said order, the true meaning of which order, as claimed by them, limited the charge to eighty per cent of the previous net rate of thirty-five cents, instead of eighty per cent of the gross rate of forty cents, and demand a reparation to the consumers on such account. Admit that said cities also by the way of cross-petition averred that numerous persons residing in said cities were desirous of obtaining natural gas service in pleadings constructed by them and that these plaintiffs refused to extend their service lines for the supplying of new consumers and pray that the Commission enter an order requiring such new connections and such service furnished to new applicants therefor.

Admit that the Commission heard the testimony offered by both parties and considered the matters arising upon the proceedings so instituted by Warfield Natural Gas Company in connection with those arising upon the motion of said United Fuel Gas Company to vacate such order against it of January 18, 1922.

Admit that the affirmative matter set up in the pleadings by said cities before said Commission was duly traversed by said Warfield Natural Gas Company and denial was made by said company of the right of said cities to the relief prayed by them.

Defendants deny that said Warfield Natural Gas Company expressed a claim that in making such application they did not admit the power of such commission to withhold such consent, or that said Commission might lawfully prevent its withdrawal.

Admit that on the 11th day of December, 1923, said Railroad Commission entered a final order, which is as appears from the records of the said Railroad Commission, but deny that its substance is as set out in the bill of complaint herein.

XI

The defendants admit the allegations of Paragraph XI of the Bill of Complaint.

[fol 766] XII

For answer to Paragraph XII of the complaint herein, the defendants admit that the allegations contained in the first paragraph thereof are true, but deny that about the same time said Warfield Natural Gas Company refused, or has at all time since refused to extend its mains in any one of said three cities or to make connections with its mains for supplying gas to new buildings in any of said three cities not previously supplied by said Warfield Natural Gas Company or its predecessor.

Denies that said Warfield Natural Gas Company was under no obligation, by franchise or otherwise, to deny to people natural gas in any one of said three cities, or desire or intend to withdraw service from each of them, unless it were permitted to charge the rate proposed by it.

Denies that said proposed rate was or is as low as it were possible for it to be compensatory for efficient or adequate service.

XIII

For answer to Paragraph XIII of the complaint herein and Charge Number One thereof, the defendants deny that Chapter 61 of the Acts of the General Assembly of Kentucky for the year 1920, is unlawful or void because contrary to Section 51 of the Constitution of the State of Kentucky, in that it relates to more than one subject, or contains provisions not expressed in its title, particularly the provision relating to the business of furnishing, distributing and selling of natural gas, or providing in Section 23 that if the franchise of any public service company shall have expired, then such company may not withdraw its service from any municipality, county or community without first obtaining the permission of said Railroad Commission, so long as it remains in business in said State or any part thereof.

For answer to Paragraph two of Paragraph XIII of the complaint herein, the defendants deny that the order of the defendant, the Railroad Commission, entered on the 18th day of January, 1922, in [fol 767] the proceeding instituted by the city of Catlettsburg

against the plaintiff, United Fuel Gas Company, or the order of said defendant, the Railroad Commission, made and entered on the 11th day of December, 1923, upon the motion of said United Fuel Gas Company, to vacate and set aside said formal order of January 18, 1922, or upon the petition of the plaintiff, Warfield Natural Gas Company to vacate said order or in the alternative to permit to withdraw service from the cities of Ashland, Catlettsburg and Louisa, are each null or void.

Denies that said order of January 18, 1922, deprived or deprives the plaintiff, United Fuel Gas Company, of its liberty or its property without due process of law, or that said order allowance to cover deterioration, depreciation and depletion of such property necessarily resulting from such use.

Denies that said order of the Railroad Commission of December 11, 1923, fixes a maximum rate that might be charged by either of these plaintiffs for natural gas service in said three cities, which order, if applied, would require the Warfield Natural Gas Company to supply such natural gas service at a rate less than the reasonable value thereof, or requires the use of the property of said plaintiff in such service without allowing a rate of return upon the reasonable value of such property equal to the customary rate of six per cent per annum upon secured obligations, over or above necessary operating expenses, or a sufficient sum to cover the necessary deterioration and depreciation of its property from such use, or that all is contrary to the said 14th Amendment of the Constitution of the United States.

For answer to Paragraph Four of Paragraph XIII of the complaint herein, the defendants deny that said order of December 11, 1923, made and entered by said Railroad Commission, deprives the plaintiff, Warfield Natural Gas Company, or upon its face purports to deprive the plaintiff, United Fuel Gas Company, of their respective liberty without due process of law, contrary to said 14th Amendment, in that it requires these plaintiffs and each of them to construct and provide at their expense, extensions of December 11, 1923, [fol. 768] deprived or deprives both the plaintiff, United Fuel Gas Company, or the plaintiff, Warfield Natural Gas Company, of their respective liberty or property without due process of law.

Denies that said order of January 18, 1923, operates to deny to the plaintiff, United Fuel Gas Company the equal protection of the law, or that said order of December 11, 1923, denies to the plaintiff, Warfield Natural Gas Company, the equal protection of the laws, or that all of same is contrary to the Constitution of the United States or particularly the 14th Amendment thereof.

Defendants further denying Paragraph Three of Paragraph XIII of the complaint herein denies that said order of January 18, 1922, fixes a maximum rate which may be charged for natural gas supplied by plaintiff, United Fule Gas Company, in said cities of Ashland, Catlettsburg and Louisa, or that said maximum was so low that compliance with said order required plaintiff to furnish natural gas service in said cities at less than the reasonable value of such service.

or required the use of said plaintiff's property in said service without just compensation or at a less rate of return upon the value of said property than the customary interest upon secured obligations of six per cent over or above operating expenses, or a sufficient and additional facilities for the supply of natural gas to the inhabitants of said cities, thereby denying to the plaintiffs the right to discontinue said business or cease to supply said inhabitants with natural gas service.

Denies that said last-mentioned order of the Commission deprives or will, if executed, deprive these plaintiffs of their property, without due process of law, contrary to said Amendment, insofar as it provides all *customers* of gas in said cities who have paid any rate in excess of that provided by said order of January 18, 1922, as interpreted by said later order of December 11, 1923, are entitled to a refund of such excess so paid, or providing that such refund will be ordered merely upon the filing of a claim therefor.

For answer to Paragraph Five of Paragraph XIII of the Bill of Complaint, the defendants deny that both said orders of January 18, 1922, and December 11, 1923, deprived the plaintiff, United [fol. 769] Fuel Gas Company, of its property, without due process of law, or deny to it the equal protection of the law, or that said order of December 11, 1923 deprives both these plaintiffs of their property without due process of law or denies to them the equal protection of the laws, because said orders fix a minimum rate which may be charged for natural gas service by the plaintiffs or one of them, without first ascertaining or finding any facts upon which such order or orders might lawfully be founded. Deny that the said defendant, the Railroad Commission, made and entered each of said orders without first ascertaining or finding the reasonable value of the property of the plaintiffs, or either of them, or what rate of return upon such value was a lawful or proper rate, or that said orders, and each of them, were actually made or entered by said Commission without any attempt to ascertain the value of such property or any part thereof, or without any reference to said value, or a reasonable return thereon.

Defendants deny that if the plaintiff, Warfield Natural Gas Company, should charge to all of its consumers of gas in said three cities a rate in excess of that prescribed by said order of December 11, 1923, it would be subject to fines under the terms of said statute aggregating millions of dollars for each month for which such high rate might be charged.

Denies that immediate and irreparable injury, loss and damage will result to the plaintiffs unless the defendants are by a temporary restraining order of this court prevented from enforcing the order of the defendant Commission, of January 18, 1922, or the order of December 11, 1923.

The defendants further answering say that the order of January 18, 1922, was made and entered by said Commission by authority of the law of the State of Kentucky, after a full and complete hearing, from the pleadings and evidence of the plaintiffs in the cause

of the city of Catlettsburg, versus United Fuel Gas Company; that all of said parties were duly represented by attorneys at such hearing; that the rate fixed by the said Commission after such hearing [fol. 770] was fully authorized by the law of the State of Kentucky and that such rate was fair, just and reasonable and nets to the said United Fuel Gas Company a fair and reasonable return upon the fair value of its property devoted to the use of producing, transporting and supplying natural gas to the consumers of said cities; that the order of December 11, 1922, made and entered by said Commission was also made and entered by it after a full and complete hearing, upon the application of the Warfield Natural Gas Company and the United Fuel Gas Company of all evidence and pleadings, exhibits and briefs of counsel presented for and on behalf of all the parties concerned, and that such ruling as was promulgated by said Commission on December 11, 1923, was reasonable, just and fair, as shown by the pleadings, evidence, exhibits and records presented by said parties at said hearing; that the ruling and order of the said Commission produces to the said companies a fair, reasonable and compensatory return upon the present fair value of their property used in and about the business of producing and furnishing natural gas to their consumers in the cities of Ashland, Catlettsburg and Louisa.

Wherefore the defendants having fully answered, they pray that the Bill of Complaint herein be dismissed, and for all proper relief to which they may be entitled.

Frank E. Daugherty, Attorney General; Overton S. Hogan, Assistant Attorney General, Attorneys for Defendants. Jno. T. Diederich, of Counsel.

[fol. 771] IN UNITED STATES DISTRICT COURT

[Title omitted]

AMENDED ANSWER TO BILL OF COMPLAINT

Come the defendants, The Railroad Commission of Kentucky, Frank N. Burns, Oscar Vest, and Isaac Wilder, members of, and constituting said Railroad Commission, and Frank E. Daugherty, Attorney General of the State of Kentucky, by, and with leave of the Court, amend their original answer and state, that, through [fol. 772] inadvertance and oversight, they have failed to deny certain material allegations contained in paragraph 27 of the plaintiffs' bill of complaint.

They therefore deny, that the gas produced by the plaintiff, Warfield Natural Gas Company, or United Fuel Gas Company, from wells owned by it or them, from their gas acreage in the County of Martin, in the State of Kentucky, except a comparatively small part sold for local consumption, near the point of production, is sold

under contract, at a point in Martin County, Kentucky, to either the Louisville Gas & Electric Company, or the Central Kentucky Natural Gas Company, deny, that no part of the gas produced by said Warfield Natural Gas Company or the United Fuel Gas Company, in said Martin County field, is available for supplying consumers in the localities of Ashland, or Catlettsburg, or Louisa.

The defendants say that they have not sufficient knowledge or information upon which to base an admission or denial, that an inventory or appraisal has been made by the plaintiffs, of all their natural gas properties owned by each of them, and that if an appraisal and valuation was made, that the values placed upon said natural gas property were predicated upon the value for sale or market value, or exchange value, and they, therefore, deny that the reasonable value of said property for a rate making purpose was, or is of the plaintiff, United Fuel Gas Company, at least $55,000,000.00, or of the plaintiff, Warfield Natural Gas Company, at least $5,000,000.00.

Defendants deny that the value of $5,000,000.00 just alleged as the value of the property of the Warfield Natural Gas Company, includes gas wells or leaseholds, or estates, etc., constituting its producing property in use in the furnishing of natural gas to consumers [fol. 773] in the localities of Ashland, or Catlettsburg, or Louisa, or which consists merely of the distribution plants in said localities, or of a share of the pipe lines through which gas is brought to said localities, provided for the use made of said lines for that purpose, is $550,000.00.

The defendants deny that by the alleged inventory or appraisal made of the entire property owned by both plaintiffs, that the combined present fair or reasonable value of said properties is at least the sum of $60,000,000.00, exclusive entirely of the value of any property not in use for the production, or transportation, or sale, or distribution of natural gas, or such as the oil producing property of the plaintiff, United Fuel Gas Company.

The defendants deny that the present value of the properties so owned, or used by the plaintiff, is in excess of the actual investment therein of the plaintiffs, or either of them, or that certain parts of said property have greatly enhanced in value.

The defendants deny that the cost of or investment in such gas producing property, is greatly less than the actual value thereof, because of the fact that by hazardous explorations, or expenditures made by the United Fuel Gas Company, it was fortunate or successful in developing one of the most valuable natural gas companies in the state of West Virginia, but the defendants say that after explorations and expenditures as alleged were made, such explorations were in no sense hazardous, for the reason that all cost and expenses incurred in such explorations were charged to operating expenses, and included in the cost of gas, and consequently included in the rates and charges collected from the gas consumers, including the consumers in the localities of Ashland, Catlettsburg and Louisa.

The defendants further say that all expenditures made in their [fol. 774] behalf, and all rentals, charges and expenditures for gas leaseholds, designated by said company as unoperated acreage, or leaseholds, have heretofore, and are now charged to operating expenses, and are included in the cost of producing, transmitting and distributing gas to the gas consumers of the plaintiffs herein, and particularly to all the gas consumers in the localities of Ashland, Catlettsburg and Louisa, notwithstanding the fact that none of said unoperated acreage is now used or useful for the production of natural gas.

The defendants further say that in the acquisition of said 720,609.39 acres of unoperated leaseholds, plaintiffs ran no risk whatsoever, but gambled with money they secured from the gas consumers of these plaintiffs, well knowing that in such gamble, they stood to lose nothing.

The defendants deny that due to intrinsic value of the natural gas pool so discovered, the development or acquirement of natural gas producing property consisting merely of the leasehold or other estates in lands held for the production of natural gas, or the natural gas wells, or lines connecting such wells to the transportation system, or the material in said wells now owned by the plaintiffs, or used in their business of producing, or transporting, or marketing natural gas, for a present market or salable value in bulk of at least $40,000,000.00.

They deny that the remaining property of the plaintiffs used or useful in the transportation, or sale, or distribution of such natural gas, whether considered as of this time, when it is owned partly by each of them or considered as a whole, previous to the alleged conveyance of a part thereof to the Warfield Natural Gas Company, consisting of the pipe lines, compressor stations, or distributing systems, for a fair present value of at least $20,000,000.00, or the sum which would be required to reproduce said plant or equipment, other [fol. 775] than leasehold or other estates in lands held for the production of natural gas, or wells, or well connecting lines, as of this time, minus any or all accrued depreciation therein, is at least the sum of $20,500,000.00.

The defendants further deny that the business of mining for, or producing natural gas, is one of exceptional hazard, as conducted by these plaintiffs, or that the subject matter of the investment therein is exhausted in its use within a comparatively short period of time, or that the investment in the acquisition or development of natural gas lines, or in the facilities for the transportation of natural gas to the points of consumption, must be amortized within the life of the producing field, or that a rate of return upon the value of such property used in the public service, which does not take account of these factors, is unjust, or unreasonable, or confiscatory, or that a rate of return of six or seven percent over or above all necessary allowances for depreciation, depletion, or amortization, is inadequate.

The defendants further say that on the contrary, the plaintiffs business has been highly profitable, and they have so conducted

their business as to relieve themselves from all financial hazards in the acquisition, development and exploitation of the property, and the sale of the product thereof.

The defendants further deny that any rate or return upon the value of the plaintiffs property used or useful in the public service, of supplying natural gas to the consumers thereof, less than a rate of 16% per annum, upon such value to cover profit, depreciation, or depletion, or amortization, is unreasonably low, or that the property used in such service sustains the depreciation or depletion, which should be charged against earnings equal to at least 6% annually of investment in the value of such property, and aver the fact to be, that the plaintiff, United Fuel Gas Company began with the year 1917 to the year 1920 inclusive, to set aside annually to [fol. 776] Reserve for Depreciation of its physical property, a sum which aggregated for the years 1917, 1918, 1919 and 1920, $4,238,500.13, and in the same period of time set aside as Reserve for Depletion of its operating cost, and *h*eseholds, or acreage, $1,306,575.95, or a total for said years of $5,545,076.08. Said sums were computed on the actual investment cost, as shown by the books of account of said plaintiff, and the defendants aver that for said years of 1917 to 1920, both inclusive, the plaintiff expended out of said Reserve for Depreciation, only the sum of $83,211.40, and expended from said Reserve for Depletion, only the sum of $15,278.52, or a total expenditure from said Reserve for Depreciation and Depletion, the sum of $98,489.92. And the defendants further say that said plaintiff set up in said Depreciation and Depletion Reserve account for the year 1921, $1,952,063.00, and set up in said Depreciation and Depletion Reserve account for the year 1922, $1,340,320.00, and said plaintiff expended from said Depreciation and Depletion Reserve account in the year 1921, the sum of $69,296.00, and in the year 1922, the sum of $53,983.00, or a total expenditure from said Depreciation and Depletion Reserve account of $123,279.00, for years 1921 and 1922.

The defendants further say that the best evidence of what sums are required to maintain unimpaired or original cost of actual investment of the property of these plaintiffs, is what is actually expended by said plaintiffs for renewals, and replacements, for which purposes said Depreciation and Depletion Reserve is set up.

And these defendants further say, that as of December 31, 1922, this plaintiff should have had in its treasury, as representing said Reserve for Depreciation and Depletion, a sum of at least $8,615,691.00.

[fol. 777] The defendants deny that the foregoing rate of 43¢ per M. cubic feet is a total cost of furnishing natural gas for domestic consumption, which term "cost" is used in this connection, as including any addition to operating expenses and return of 16% upon the value of the property to cover profit, the depreciation, or depletion, or amortization, is the average cost of all natural gas which will be distributed to domestic consumers of the plaintiffs in the several localities in which they furnish gas for domestic consumption.

The defendants further state, that in the beginning of the year 1916, the United Fuel Gas Company began to extract gasoline from natural gas, produced and purchased, through either the compression or absorption processes.

The defendants further say that a reasonable and fair value for the privileges of extracting gasoline by any process from said natural gas, is worth at least three cents per M cubic feet, and that the value of said extraction privileges, should be treated either as an income in addition to the sale of gas, or should be deducted from the cost of producing, or the purchase price of natural gas.

The defendants further say that on or about July 18th, 1918 the plaintiff, United Fuel Gas Company, entered into a contract with the Columbia Gas & Electric Company, and the Ohio Fuel Supply Company, to pay the said Columbia Gas & Electric Company and the Ohio Fuel Supply Company, as the fair value of the extraction privilege aforesaid, three cents per M cubic feet, of all gas sold and delivered to said Columbia Gas & Electric Company and the Ohio Fuel Supply Company, in any one year.

Said contract in words and figures is as follows:

* * * * * * *

July 18, 1919.

Columbia Gas & Electric Company, attention Mr. W. Y. Cartwright, Vice-Pres., Fourth & Plum Sts., Cincinnati, Ohio.

[fol. 778] Dear Sir: As a memorandum of the oral agreement reached on yesterday in pursuance of previous negotiations, with reference to the price to be paid to the United Fuel Gas Company for gas supplied by it to the Columbia Gas & Electric Company and the Ohio Fuel Supply Company, during the calendar year 1918, I would thank you to advise me whether the following is a correct statement of the agreement, and if so, entries covering the matter will be made on our books.

First. For the first 10,000,000,000 cubic feet taken by the Columbia Gas & Electric Company and the first 9,800,000,000 cubic feet taken by the Ohio Fuel Supply Company, they are to pay respectively the sum of 7¢ per thousand cubic feet; and for any excess over 10,000,000,000 cubic feet taken by the Columbia Gas & Electric Company, or for any excess over 9,800,000,000 cubic feet taken by the Ohio Fuel Supply Company, during the calendar year 1918, they shall pay at the rate of 11¢ per thousand cubic feet, the latter being the price during the year 1918, charged to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company. The foregoing, however, is subject to the qualification that, should the Columbia Gas & Electric Company take during the year less than 10,000,000,000 cubic feet, or should the Ohio Fuel Supply Company take less than 9,800,000,000 cubic feet, then the quantity which each of said companies shall have the right to purchase at the rate of 7¢ per thousand shall be limited to an entire quantity, of which

the Columbia Gas & Electric Company shall have 51% and the Ohio Fuel Supply Company 49%. That is to say, if one of said companies shall take less than the quantity above mentioned to which it is entitled at the 7¢ rate, then the other Company shall be entitled to take, at such 7¢ rate, either 2% more or 2% less, as the case may be, at the same rate. For all gas taken during said year by the Columbia Gas & Electric Company in excess of that to which it may be entitled under the last mentioned provision at the rate of 7¢, but not in excess of the entire quantity of 10,000,000,000 cubic feet in said year, it shall pay at the rate of 10¢, and for all the gas taken by the Ohio Fuel Supply Company during said year in excess of the quantity to which it may be entitled at the 7¢ rate, but not in excess of the entire quantity of 9,800,000,000 cubic feet, it shall pay at the rate of 10¢.

Second. For the gas taken by each of you during the remainder of this year, you will be billed at the rate of 7¢ per thousand cubic feet, subject to such adjustment at the end of the year as may be required to meet the foregoing stipulation. It is understood that each of you have been charged for the gas previously taken during the year at 10¢ and a refund will be made to each of you at the rate of 3¢ per thousand as soon as this company has the available cash for that purpose. We will make this refund to you ratably, so as to give no preference to one Company over the other, but we do not agree to pay interest to either of you upon the amount to be refunded.

Third. In consideration of these concessions, each of you agree to relinquish any claim to the gasoline produced by this Company from the gas sold to each of you during this year, and you concede, [fol. 779] for the time being, our right to extract the gasoline before delivering to you the gas. This agreement is made only for the year 1918, however, and is not to be used against either of us, as an admission of our right to extract said gasoline in future years, nor as an admission against us of any right on your part to prevent our extraction of said gasoline, or of any right on your part to participate in the proceeds of said gasoline.

Fourth. The right of all parties with reference to the subject matter of the foregoing shall continue to be governed by the provisions of the contract of July 31, 1916, except as modified by the agreement above recited as applicable to the year 1918.

Very respectfully yours, United Fuel Gas Company, by R. C. Altizer, Vice President.

* * * * * * *

And the defendants further say, upon information and belief that the said United Fuel Gas Company has ever since the date of said contract, and does, and is now performing the terms thereof, with respect to the allowance of three cents per M cubic feet, as a reasonable worth of the gasoline extraction privilege.

The defendants further say that notwithstanding the reasonable worth of said gasoline extraction privilege, that in April 1922, the United Fuel Gas Company, organized the Virginian Gasoline & Oil Company, a Corporation created by it, for it, and owned by it, being officered and directed by an interlocking directorate. Said United Fuel Gas Company transferred to the Virginian Gasoline and Oil Company, all the gasoline stations, tank cars, oil obtainable from certain tracts of land, in which the United Fuel Gas Company owned the fee title in the oil, the oil interests in all of its then joint oil and gas leaseholds, the carbon black plant owned by it, together with the land on which it is situated.

In consideration of the aforesaid transfer of the property and rights, the Virginian Company issued to the United Fuel Gas Company, 8,897 shares of its capital stock of $100.00 par value and as- [fol. 780] sumed $1,717,000.00 of the first mortgage bonds of the United Fuel Gas Company. The capital stock given in payment represented the total shares authorized to be issued at the time with the exception of five directors' qualifying shares. The Depletion and Depreciation Reserve applicable to the property transferred was also taken over by the Virginian Company.

Subsequent to May 1st, 1922, there was transferred from the books of the United Fuel Gas Co., to those of the Virginian Company the added value which had been found through an appraisal of the operated and unoperated oil acreage and certain adjustments were made of the sinking fund obligation, following the assumption of a portion of the bonds, but no part of the cost of such acreage carried on the books of the United Fuel Gas Company was transferred to the Virginian Company, because of the fact that under an agreement the Virginian Company is to reimburse the Gas Company for all delay rentals after May 1, 1922, in the case of the presently unoperated tracts upon which oil in paying quantities may be discovered at some future date. In the case of bonuses paid upon the renewal of joint gas and oil leases the cost is divided equally.

On May 1st, 1922, in a separate agreement made between the United Fuel Gas Company and the Virginian Gasoline & Oil Co., being a contract made by and between the United Fuel Gas Company on one hand, and the Virginian Gasoline & Oil Company on the other hand, both of which companies were controlled and owned by the Columbia Gas & Electric Company, and said contract not being made at arms length, and being unfair and unreasonable, conveyed to the Virginian Gasoline & Oil Company the gasoline extraction privilege for one-eighth of the gross revenue derived from the sale of the gasoline extracted from said gas. That said United Fuel Gas Company, if it had dealt at arms length concerning said privilege, [fol. 781] would, and should have received at least 3¢ per M. cubic feet, or at least one-half of the net earnings received by the Virginian Gasoline & Oil Company. A division of the gross and net revenue, one-eighth of the gross revenue and one-half of the net revenue, for each of the years set forth below, produced the following revenues:

	One-eighth gross	One-half net
1917	$239,374.25	$669,955.28
1918	289,275.18	799,235.37
1919	361,801.17	1,093,650.60
1920	451,813.76	1,340,810.35
1921	344,510.52	1,032,759.80
1922	379,007.13	1,171,752.22

That the contract made between the United Fuel Gas Company and the Virginian Gasoline & Oil Company providing for one-eighth of the gross revenue derived from the gasoline extraction privilege, should be disregarded and *the* the United Fuel Gas Company should receive at least 3¢ per M. cubic feet, or at least 50% of the net profits, and that that portion should be paid to the Gas Company as the reasonable value of the gasoline extraction privilege, and deducted from the cost of producing gas, or that part purchased.

Wherefore, the defendants pray, as in their original answer herein, and for all proper and equitable relief to which they may be entitled.

Frank E. Daugherty, Attorney General; Overton S. Hogan, Assistant Attorney General; Attorneys for the Defendants.
V. A. Dinkle, Fred See, Jr., Flint Drideint, of Counsel.

[fol. 782] No. 5

Opinion appears in the transcript of orders, this being entered as an order.

[fols. 783-786] No. 6

Preliminary injunction appears in the transcript of orders.
I think you will find No. 5 and No. 6 embraced in the same entry.

[fol. 787] In United States District Court

[Title omitted]

Statement of the Evidence in Narrative Form

Caption

Upon the final hearing of this cause before the Hon. Smith Hickenlooper, District Judge for the Southern District of Ohio, designated to sit as District Judge for the Eastern District of Kentucky in this case, it was agreed by the parties that all evidence heard and con-

sidered by the special statutory three-judge court composed of the Hon. Arthur C. Denison, the Hon. Paul Jones and the Hon. Smith Hickenlooper should be considered on the final hearing of this case as though the witnesses and the testimony there offered were here again offered on said hearing. The evidence offered upon said [fol. 788] hearing before said special statutory three-judge court consisted of the full transcript of the proceedings had before the Railroad Commission of Kentucky, filed with the bill in this cause as Exhibits B and E, and for the reason that said exhibits are printed as part of said bill and as part of the record herein the evidence therein contained is not again here repeated, but the said Exhibits B and E are here referred to as part of the evidence considered upon said final hearing.

In addition to the evidence contained in said Exhibits B and E, there was introduced before said special statutory three-judge court Samuel S. Wyer and H. A. Wallace, two witnesses on behalf of the plaintiffs, who testified in substance and effect as follows:

Samuel S. Wyer

The witness Samuel S. Wyer testified that he lived at Columbus, Ohio; that he was a consulting engineer specializing in public utility problems, and had been connected with a number of operating natural gas companies, and in a professional capacity had examined more than eighty per cent of the natural gas industry of North America, in some cases for the purpose of appraising the [fol. 789] property and in others for getting actual depletion conditions in order to get data on future operating conditions; that in connection with these examinations he had had much experience and had obtained a great deal of information as to the value of gas producing land, for the purpose of advising in regard to both the purchase and sale property; that he is familiar with the gas properties of the plaintiffs United Fuel Gas Company and the Warfield Natural Gas Company, having examined these properties a number of times within the last six years; that he is familiar not only with their condition today, but to a large extent with the history and development of the properties, except the very early history; that he has valued a large number of plants for rate-making purposes and has analyzed a large number of situations in regard to determining what the fair rate should be; that in these examinations he frequently represented the public service corporation desiring the rate and also frequently public interests opposing such rates or interested therein; that he testified on the hearing before the Public Service Commission of Kentucky and on that hearing filed with his testimony a statement of reproduction cost of the properties of the United Fuel Gas Company as of January 1st, 1920. [fol. 790] and a supplemental statement was prepared bringing that up to date; that the same is filed with his testimony before said Railroad Commission as Exhibit No. 1; and the said report is included in Exhibit E filed with the bill herein at page 229, for which reason it is not again incorporated at this point.

That in making up the said Exhibit No. 1 above referred to he took as a basis the valuation made by him in 1920 and brought the same down to the date of the report referred to; that upon the basis of what the witness found to be the present fair value of the property a rate of 43 cents per thousand cubic feet of gas at Ashland, Catlettsburg and Louisa would be necessary in order to yield 16 per cent. annually upon such value in addition to the expense of operation, said 16 per cent. to cover profit, depreciation, depletion and amortization; that he divided this 16 per cent. into an allowance of 4 per cent. for profit, meaning by this the hazard connected with the business, six per cent. for interest and 6 per cent. for depreciation, in which is included depletion of the properties; that he considered the 4 per cent. a minimum allowance because of the hazardous character of the business and because it had a shorter life for its investment than the average utility business. [fol. 791] This is because the natural gas business consists of a combination of mining enterprise, which is producing in the field, coupled with a public utility enterprise and the public utility responsibility, in which business the public utility depends, for the fundamental feature of its service, upon its luck and skill in finding, and upon Nature's caprice in continuing that service. Each time the company sells a thousand cubic feet of gas it parts with a part of its property, for which reason it must hold large tracts of land in reserve in order to carry on drilling operations and meet the depletion, and to permit continuous service to the public in the future.

That making the calculation upon a basis of a 12 per cent. return instead of a 16 per cent. return, the net average retail price would be 37 cents per thousand cubic feet; and that if the industrial gas is charged with a part of the distribution expense it would show a charge of 31 cents per thousand cubic feet; that there is no reason for charging the industrial gas, however, for any part of the distribution expense, for the reason that very little industrial gas passes through distributing mains, it being sold directly from the medium pressure line right close to the town proper, so the [fol. 792] distributing charge is not the same as in the case of domestic gas.

Another reason for making a lower rate for industrial gas is that it is a non-preferential service, and is shut off, or may be shut off, in times of shortage, when domestic consumers are given the preference.

That what he considers in his statements as distribution expense is the expense of retailing the gas, which is almost entirely incurred in the distribution of gas to dwelling houses, and similar distributions, rather than in the large quantities to factories and like places; that if the industrial gas is to be charged with any part of the distribution expense it should be a much less share than the corresponding amount of domestic gas.

That he valued the property as of January 1st, 1924, at $64,000,000, of which $36,000,000 was the reproduction cost new as of January 1st, 1920, to which had been added extensions since

said time of $3,500,000, and depreciation accrued of $7,500,000; that this divided into $32,000,000 for the so-called physical property and $32,000,000 for the natural gas rights, leaving a total rate base for his tentative calculation of $64,000,000 in round numbers; [fol. 793] that in ascertaining the value of said properties he did so upon the basis of what it would cost to reconstruct the same at prices prevailing within the last two years, less the accrued depreciation; that the gas leases and gas rights are the heart of the whole proposition, the whole enterprise being predicated upon the right to explore and reduce the gas to possession, just as in a water case the water rights for developing the water should be the heart and crux of such situation; that without the gas the other property would have merely a salvage value, and these gas rights or leases were regarded as property, having a present fair value, a value that could easily be realized on the basis of their exchange in the open market today.

That on the operated acreage he fixed a value of $300 per acre, and on the undrilled acreage, or reserve acreage, he took one-fifth of the total acreage the company has as reserve and considered that that was necessary, either to protect present producing operations or for drilling operations in the immediate future, and on that reserve acreage placed a value of $100 per acre; that this reserve represents one-fifth of the total undeveloped acreage held by the company, so [fol. 794] that the valuation fixed by him on the gas lands and leases is the value only of such part thereof as is operated and twenty per cent. of the remainder, which the witness considers necessary for the immediate future, thus excluding 80 per cent. of the undrilled acreage held by the company from the calculation; that this 80 per cent. undoubtedly has some value; that the fact that the company has it places it in a much stronger position, as far as future service is concerned; that in fact the United Fuel Gas Company is in the strongest position, as far as future service is concerned, assuming the continuance of normal operating conditions, of any company in North America—that is, there is not a company in North America that has the future service possibilities of the United Fuel Gas Company.

That he arrived at the price per acre fixed by him on said gas leases and gas rights from figures he has of a large number of property transfers where leases were bought and sold; that he knew certain conditions with regard to the physical characteristics of those leases—that is, the producing characteristics—and with that actual property transfer data before him, and on the basis of having made a large number of estimates of values used in purchase situations, it [fol. 795] was merely a matter of judgment that this particular acreage would be worth substantially the figure that he applied per acre; that he is very sure from what he knows of the field situation that it would be a very easy matter to get $32,000,000 for the entire block of acreage at any time it is offered on the market; that his professional occupation has brought him into contact with the market for gas lands, and that he knows that there is a demand for them.

and where this particular property could be sold; that it would be easy, in his opinion, to sell along with the gas rights or leases the pipe lines and other properties connected therewith to other companies engaged in the eastern fields, for the reason that their condition is such that they would be glad to make such a purchase.

That the Philadelphia Company has spent over $2,000,000 in building a manufacturing gas plant to supplement its rapidly declining natural gas supply; that it would be very much cheaper from the point of view of that company if it could buy additional gas acreage and continue to operate as a straight natural gas utility for a very much longer period of time than to put money in manufactured gas.

That the same situation is true of the Eastern Oil Company, operating in eastern West Virginia and extending through to Cumber-
[fol. 796] land, Maryland; also as to the Manufacturers' Light & Heat Company, where they have a retail price—that is, the consumer is actually paying—60 cents a thousand for West Virginia gas.

That the Philadelphia Company distributes a small amount of gas in West Virginia, but its market is primarily in western Pennsylvania, with Pittsburgh as the largest single market; that the Manufacturers' Light & Heat Company sell gas in West Virginia, Ohio and western Pennsylvania; that there are two other markets he has not mentioned at all, and that is the group of towns of the East Ohio Gas Company, in eastern Ohio, where the prices are from 45 cents up; that as an instance St. Clairsville, Ohio, is now paying 90 cents for West Virginia natural gas, and there is a large group of towns in Indiana where they very shortly will have to go back to manufactured gas, which will be the equivalent of paying $3.50 for natural gas, unless they can get additional natural gas supplies, and the pipe line going to those Indiana towns, unless it can make connection with other West Virginia supplies, will be unable to meet the demand.

In Hamilton, Ohio, with a municipal plant, the consumers are paying 60 cents for natural gas, and it is a question whether enough
[fol. 797] gas can be gotten to make the service continuous for any period of time in the future.

That generally speaking the rates for natural gas in Ohio and Pennsylvania are in excess of 40 cents, and by that very situation a very definite market for the West Virginia gas has been created, and that market has created a very general demand for gas leases in West Virginia.

That the gas fields in which the United Fuel Gas Company's gas rights lie are connected by existing pipe lines to the Philadelphia Company's property and the Hope Natural Gas Company's lines, which is the Standard Oil Company's West Virginia property, and also the Ohio Fuel Supply Company's property, which latter company supplies a large number of towns in central Ohio extending clear down to Cincinnati from the northern part of the state, and with practically no change whatsoever the entire output of the United Fuel Gas Company could be taken to Pennsylvania, Ohio and In-

diana through existing transmission facilities, because the transmission facilities today are far in excess of the gas—that is, their carrying capacities are far in excess of the amount of gas they have available.

That it takes 2,000 cubic feet of manufactured gas, ordinarily [fol. 798] called artificial gas, to equal 1,000 cubic feet of natural gas, for heating and cooking purposes, or for all services where gas is used, including light, although practically, outside of Philadelphia and a few other places, candle-power standards are no longer in use on manufactured gas, but manufactured gas is sold exclusively on the basis of its heating value content, and its heating value content is one-half of the heating value content of West Virginia natural gas.

As a further comparison, the average price of manufactured gas throughout the United States is $1.25 per thousand cubic feet, so when these consumers in Ohio, Indiana and Pennsylvania have to go to manufactured gas—and some of them have now reached that point—it means the equivalent of paying $2.50 for natural gas, or, to put it on a natural gas basis, dollar natural gas is only 40 per cent as expensive as any manufactured gas that can be made, and dollar natural gas will be the prevailing rate in Ohio, Indiana, Kentucky and Pennsylvania in the next three years, because it will be a privilege to anyone in those states that can get natural gas at a dollar, and the controversy will not be as to whether the price shall be a dollar, but as to whether they can get the gas at all.

[fol. 799] That the plaintiff's rates for gas in West Virginia are now in litigation, and that the same are lower than the rates in Kentucky and Ohio; that the plaintiff United Fuel Gas Company supplies gas to New Boston, Ironton, Scottsville and Hanging Rock in the state of Ohio, and indirectly to the city of Portsmouth; that the New Boston, Ironton and Portsmouth rates are 40 cents; that the rate at which the plaintiff sells the gas to the Portsmouth company is 30 cents, and that company sells it to the domestic consumer at 40 cents; that there is no financial arrangement between the company supplying the consumers in Portsmouth and the plaintiff, so far as the witness knows.

That the rates charged in West Virginia, which are in litigation by the plaintiff United Fuel Gas Company, are fixed by public authority; that the rates in West Virginia are very much lower than in Kentucky and Ohio; that the cost of distributing the gas in the West Virginia cities would be substantially the same, but that as to the West Virginia cities there is practically no cost of transmission, because those towns are situated on the edge of the gas field; that the production cost would be practically the same in both instances.

That in the witness's opinion the present West Virginia retail [fol. 800] rates are confiscatory, because they do not yield an adequate return on the present fair value of the property used and useful in the public service; that in the opinion of the witness 16 per cent of the present fair value of the property would be required to yield such fair return and provide for interest on the value, and expenses and depreciation; that in making the calculations he has as to the

rate of return and the rate to be charged for gas, he has considered the property as a whole, as one entity; that the transportation expense varies with the distance from the field; that the transportation expense for the cities of Ashland, Catlettsburg and Louisa would be above the average used by the witness, because the towns are located at the end of the transmission lines, while the average figure used by him is on the basis of a town just midway between the center of the field and the outer market; that he has not carried this difference into his calculations, and that this can only be done by arbitrarily allocating a number of feet to a particular town, but that the cost of distribution to the Kentucky cities referred to is above the average used by him in his calculations.

That he does not think that all the gas sold by the United Fuel [fol. 801] Gas Company should bring 37½ cents in order to yield a fair return, that that disposed of at the edge of the field, where no transportation cost is incurred, should be sold at a less price; that in his opinion 45 cents would be required at the outer ends of the field, and that if the gas was sold right at the field the production cost of 23 cents would be sufficient to yield a return, eliminating therefrom the transmission cost and the distribution cost; that for every thousand cubic feet of gas produced in order to get a fair return the plaintiff would have to receive 23 cents, excluding distribution and transmission costs.

That he has made up a statement showing the average cost of natural gas production, transmission and distribution of United Fuel Gas Company as of January 1st, 1924, on the basis of 16 per cent. annual return for sinking fund, interest and profit, and files the same, marked Wyer Exhibit A, the said statement being in the words and figures following:

WYER EXHIBIT A

Average Cost of Natural Gas Production, Transmission, and Distribution of United Fuel Gas Company

Sec. 1. Fundamental Data.—These calculations are based on the [fol. 802] following:

a. The reproduction cost new of the property at the present time is $85,000,000, and on a pre-war price basis was $55,000,000. The rate basis for these calculations is taken at	$50,000,000
b. Annual rate of return to maintain integrity of property value, interest and profit, 16% of the above rate basis	
c. Annual operating expenses—1922 figures. Distributed as shown in Sec. 3	4,137,770
d. Volume of gas estimated as follows	

	1922	Future estimate
Volume gas sold	46,867,511 "M"	45,000,000 "M"
" " purchased	11,220,802 "M"	10,000,000 "M"
" " produced	35,646,709 "M"	35,000,000 "M"
" " to own consumers	14,872,918 "M"	14,000,000 "M"
" " to own domestic consumers	6,977,493 "M"	6,000,000 "M"
" " sold in field	587,152 "M"	1,000,000 "M"

c. The cost figures determined herein are the average costs for all gas handled. Where part of the gas is sold at less than the average rate, it is, of course, obvious that the remaining part must be sold in excess of the average in order to net the average income. For instance, the transmission cost to the Kentucky towns would be considerable above the average because of the distance factor.

[fol. 803] Sec. 2. Distribution of Property —

Production, including compressing stations	72.5%
Transmission, main and lateral lines	21.5%
Distribution	6 %
	100 %

Sec. 3. Operating Expense Distribution (1922 Figures) —

	Production	Transmission	Distribution	Total
Operating	$2,253,380	$101,046	$252,445	$2,606,881
General expense	103,378	36,487	12,162	152,027
Property taxes	343,818	121,348	40,449	505,615
Federal income taxes	184,112	64,981	21,660	270,753
	$2,884,688	$323,862	$326,716	$3,535,276
Gas purchased	602,494			602,494
	$3,487,192			$4,137,770

Sec. 4. Annual Return Distribution —

The 16% return on $60,000,000 — $9,600,000 is distributed on basis of property value thus:

Production, 72.5%	$6,960,000
Transmission, 21.5%	2,064,000
Distribution, 6 %	576,000
	$9,600,000

Sec. 5. Total Annual Charges —

	Production	Transmission	Distribution	Total
Operating	$3,487,192	$323,862	$326,716	$4,137,770
Return on property	6,960,000	2,064,000	576,000	9,600,000
	$10,447,192	$2,387,862	$902,716	$13,737,770

Sec. 6. Production Cost —

Total cost from Section 5, $10,447,192 = 1,044,719,200¢.
Volume bearing this burden total gas sold = 45,000,000 "M"

$$\text{Cost per "M"} = \frac{1,044,719,200}{45,000,000} = 23¢$$

[fol. 804] Sec. 7. Transmission Cost —

Total cost from section 5, $2,387,862 = 238,786,200¢.
Volume bearing this burden total gas sold, less field consumption, = 45,000,000 "M" — 1,000,000 "M", = 44,000,000 "M"

$$\text{Cost per "M"} = \frac{238,786,200}{44,000,000} = 5¢$$

Sec. 8. Distributing Cost, Including Industrial Gas —

Total cost from section 5, $902,716 = 90,271,600¢.
Volume bearing this burden = 14,000,000 "M"

$$\text{Cost per "M"} = \frac{90,271,600}{14,000,000} = 6¢$$

Sec. 9. Distributing Cost, Domestic Gas Only —

Total cost from section 5, $902,716 = 90,271,600¢.
Volume bearing this burden = 6,000,000 "M"

$$\text{Cost per "M"} = \frac{90,271,600}{6,000,000} = 15¢$$

Sec. 10. Production Cost on Basis of Including Gasoline Earnings —

The net gasoline earnings for the year 1922 were	$2,254,556
16% return on $1,180,000 gasoline investment	188,800
	$2,065,756

Deducting the above $2,065,756 from $10,447,192 leaves $8,381,436—or 838,143,600¢—as a total production cost on the basis of crediting all gasoline earnings.

Production cost per "M" on basis of crediting all gasoline earnings

$$= \frac{838,143,600}{45,000,000} = 18¢$$

That is, crediting all of the gasoline to natural gas would lower the production cost 5¢. Crediting one-half of the gasoline net to pro- [fol. 805] duction cost would lower the production cost 2½¢.

Sec. 11. Summary —

Average production	23¢
Average transmission	5¢
Average distribution (domestic only)	15¢

That he has made up a similar statement on the basis of 12 per cent. for sinking fund, interest and profit, but inasmuch as this statement necessarily shows a rate of exactly three-fourths of the rate shown by the statement above, the same is not here included in the record.

That for the purpose of his calculations and exhibits filed before the Railroad Commission and on this hearing he has treated the property of both of the plaintiffs as a single entity, without any regard to intercorporate relationships; that the separation of the properties that has been accomplished by the organization of the Warfield Natural Gas Company did not make any substantial difference in the actual cost of furnishing gas, but was merely an accounting convenience; that the price of 30 cents charged the Warfield Natural Gas Company by the United Fuel Gas Company for the gas furnished to the Kentucky cities is, in the opinion of the witness, a fair and reasonable price; that this price would just about give a [fol. 806] fair return on the property used in handling the gas up to the particular point of delivery; that it is difficult to make any comparison of this price with prices at which other companies sell natural gas in similar quantities for the reason that the intercorporate relations are such that the prices do not necessarily reflect an actual price based upon a sale of the gas; that the witness does not know of any contracts made at about the time the contract between the Warfield Company and the United Fuel Company was made for similar quantities of gas at a less rate than 30 cents; that assuming the price of 30 cents to be fair and reasonable price for the gas to the Warfield Natural Gas Company, a fair and reasonable price for it to charge to its consumers would be 40 cents, or 10 cents in addition to 30 cents to cover the cost of distribution and a fair return upon the investment therein; that the 40 cent rate charged only allows 10 cents for this purpose; that a 45-cent rate with a discount of 5 cents for prompt payment in practical application amounts to a 40-cent rate, as in ninety-nine and a fraction per cent. of the business the consumers take advantage of the discount, for the reason that it is made large and attractive.

[fol. 807] Cross-examination

That the rate base of $6.1 (6611/2) fixed by the witness is what he considers the market or exchange value of the company's property, including the operated acreage and 20 per cent. of the unoperated acreage, ignoring 80 per cent. thereof; that he is not fully

advised as to the cost of procuring this acreage, but it was very small and varied as to different tracts; that he at one time made a careful examination of this but did not in connection with his recent appraisal; that he did not find out the assessed valuation of the company's property, nor did he take that into consideration, for the reason that he does not consider that it has any more bearing upon the real value of the properties than the number of watches that are returned in any given community has upon the actual number in the community; that the valuation of $32,000,000 fixed by him upon the operated acreage and the 20 per cent. of the unoperated acreage is his judgment; that all matters of valuation are simply matters of judgment, they being incapable of being reduced to arithmetical formulae.

That the cities of Ashland, Catlettsburg and Louisa are in the [fol. 808] northeastern corner of Kentucky and just across the West Virginia boundary line; that the rate charged for natural gas at Huntington is 21 cents; that he is not acquainted with the rate charged at Kenova, but that it is perhaps the same as at Huntington; that Fort Gay is situated in West Virginia just across the river from Louisa, Kentucky; that the price of $300 an acre placed by him upon the operated acreage is a uniform price fixed on all producing territory, without attempting to separate it individually, and that this price applied to the producing territory in Kentucky as well as in West Virginia.

That the price paid by the United Fuel Gas Company to other people from whom it buys gas is reflected in their operating costs, inasmuch as the purchase price is charged as an operating expense; that such price is not very far from 7.9 cents; that this fact has some bearing upon what the wholesale price at the wells should be, but it must be considered that this gas is bought from small operators, without any public utility obligations and without any reserve acreage, and that a purchase price from a small, isolated owner is not a criterion as to what a public utility must cope with in rendering service on a consumer's basis.

[fol. 809] That he testified in this hearing before the Railroad Commission of Kentucky, and that the statements made there were true and that he has not changed his opinion upon the questions about which he there testified, although the record is a poor piece of stenographic work; that he also testified in the rate hearing before the Public Service Commission of West Virginia; that the West Virginia Public Service Commission in the first hearing in the Clarksburg case adopted in toto the idea that the leases have property value; that in the second case this conclusion was repudiated by an entirely different personnel of the commission; and that in the recent case before the Public Service Commission of the United Fuel Gas Company the witness did not testify at all; that in the cases in which he did testify he testified along the same line that he did in the hearings here.

That the witness does not know the exact distance of Catlettsburg, Ashland and Louisa from the producing fields of the United

Fuel Gas Company. They are rather close to the Kentucky fields, but no Kentucky gas goes to these towns, so the comparison must be made from West Virginia. That there is a line connecting Ashland, Catlettsburg and Louisa with the Kentucky field, but that [fol. 810] this gas is sent south instead of sending it north; that this is because the pressures are lower in the Kentucky field, and this gas cannot, therefore, be transported against the pressures in the lines from the West Virginia field; that compressor stations are used to send the gas along the line, but that these stations do not make more gas,—they simply increase the pressure; that there are no compressor stations in the neighborhood of Ashland and Catlettsburg; that there is one located in Martin county, Kentucky, and also in Lawrence county; that the gas from these compressor stations goes south to supply other markets at Louisville, Frankfort, Lexington and a number of smaller towns.

That Catlettsburg is about 35 miles from the nearest field of any consequence in West Virginia as the gas flows, although the air-line distance to the Wayne field is less, but no gas from this field goes to Catlettsburg; that it is about 45 miles north of the Kermit field in Kentucky and 35 miles from the West Virginia field; that there isn't anything like one large field in West Virginia, it being made up of isolated pools; that the distance given by the witness would be from the Putnam field in Cabell county; that all the gas used at Ashland and Catlettsburg is gas that comes into Kentucky in interstate commerce; that there is a field shown on the map used [fol. 811] by the witness in the hearing before the Railroad Commission known as the Wayne field, which is about 30 miles from Ashland and Catlettsburg; that the gas from this field goes to Ivel Junction and from there to Louisville, Frankfort and Lexington.

That he has done work on various occasions for the United Fuel Gas Company for the last six years; that he is doing some work at this time for the Ohio Fuel Supply Company and has done work for that company for the last ten or fourteen years; that he is not now employed by the Columbia Gas & Electric Company, but has done some work for that company in the past several years; that his work has been to a large extent for gas companies; that he has represented relatively few cities; that the gas from the Wayne field goes through the Walbridge compressor station shown on the map, and that the pressure is there raised so as to permit the gas to go south into the main transmission lines, and that none of it goes to Catlettsburg, Louisa or Ashland.

Further direct examination

In supplying information asked for by the Court, the witness testified that the value of the properties used by the Warfield Natural Gas Company in the service in the three cities in question were, Ashland, in round numbers, $400,000; Catlettsburg, $200,000; Louisa [fol. 812] 32,400; that these figures were the values of the respective distribution plants only and do not include any transmission lines from the field up to the town boundaries; that in addition to this

property the Warfield Natural Gas Company has compressor stations and pipe lines that get the gas to the various town distributing plants although the compressor stations of the Warfield Natural Gas Company do not compress gas going to Ashland or Catlettsburg, and that it has pipe lines used in this service extending from the point of delivery in West Virginia to the several cities, which lines are not used exclusively for transporting gas to these cities; that they are used in the interstate transportation of gas, part of which goes to Ohio and part to Kentucky; that the witness has not attempted to allocate any particular part of the value of these lines to each of said cities; that the rate of return on the rate fixed by the witness which would be provided by a 28-cent rate for natural gas would be under 12 per cent for interest, depreciation and profit.

Further cross-examination

That in fixing the value of the property at $64,000,000 the witness [fol. 813] has deducted the accrued depreciation and depletion; that he deducted on this account from the reproduction cost $7,500,000; that he arrived at the accrued depreciation by going over the property and examining its general physical condition; that he did not attempt to segregate the particular items and fix a particular per cent of depreciation to each, but just deducted practically the equivalent of 20 per cent from the total physical values for depreciation; that he did not deduct anything from the value of the acreage, the value fixed by him of $300 on the operated acreage and $100 on the other acreage taken into consideration being what he considered it then worth in its present condition; that in fixing this value he took into consideration the amount of gas which had already been taken out of the ground.

H A Wallace

Vice-president and general manager of the United Fuel Gas Company; first connected with the company in 1912 as general superintendent; two years later became general manager and a short time later vice-president and general manager of the company.

Is familiar with the physical property of the company; has been [fol. 814] employed in the gas fields for considerably over thirty years in New York, Pennsylvania, West Virginia, Kentucky, Ohio, Texas, California and practically all of the oil and gas fields; had charge of properties in the greater part of those states and has been employed in practical work.

In his present occupation purchases gas properties for the company and examines property under consideration for purchase by other companies. Prior to his employment with the United Fuel Gas Company was with the Hope Natural Gas Company, or the Standard Oil Company, in the neighborhood of fifteen years. It is a

fact that his advice is often sought by prospective purchasers of property as to the values in a great many cases.

Has made a study of the present fair value of the gas producing property of the United Fuel Gas Company and the Warfield Natural Gas Company; has segregated 137,253 acres of proven gas acreage, of which the greater part is being operated—acreage that is underlaid with gas. I value this acreage at $250 per acre, which in my opinion is very conservative on that acreage. That gives me a value of $34,314,000 on that part of the acreage. Then I separated 124,000 acres that in my opinion is very probable gas acreage—in fact, I feel cer- [fol. 815] tain that the greater proportion of it is good gas acreage, but not as sure as the acreage first considered. Upon this I place a value of $50 an acre, which I feel is very conservative for that. That would make a value of $6,200,000 on that, or a total combined for the two different proportions of acreage of $40,514,000.

That leaves a reserve acreage of over a half million acres that I consider very much wild cat territory, but we have certain reasons for taking it up and carrying it. We class it a little bit better than the ordinary wild cat acreage. I have classed it at a dollar an acre, as that is what we pay for it yearly.

I placed the valuation at about $10,000,000 in acreage. This valuation includes the casing and pipe, gate valves, etc., but it does not include any property of the company in its main pipe lines, distribution plants or any other physical property used in the transportation of gas or in its distribution. I know that this acreage has a sales value of the amount of money which I have stated. I feel satisfied that I could secure prospective purchasers, or people that would purchase the property, very readily at that figure, but the property has never been for sale. I know on my recommendation to [fol. 816] purchase, the property would very readily sell for that figure. There is a demand in the market today for that character of property. Not very many months ago I had a proposition put at me by one of the largest gas companies in the country wanting to know if we would consider a sale of our gas acreage, or any part of it, and he spoke at the time of what a wonderful combination it would make with their market and our supply of gas. I told him I was satisfied that there was no part of our acreage for sale, nor that the property as a whole could not be purchased. They were people that had the money to buy the property, and there is very little doubt in my mind that they would purchase it readily at the price I placed on it.

The cost of operating and transporting gas has increased enormously in the last two years. Not only has the price of material that is used in drilling wells, laying lines, building compressor stations, etc., increased considerably over 100 per cent, but prior to the time I refer to this gas was transported to the market without the aid of compressor stations, which is a very expensive piece of machinery and a very expensive operation. In other words, the rock pressure [fol. 817] of the well was sufficient to transport it to the market we had. Now we have several million dollars expended in machinery at compressor stations, and I would say that our payroll would run,

for labor alone—just merely the operation of this machinery—fifty or sixty thousand dollars a month, which, of course, was unnecessary a short time ago when the wells had that rock pressure. Labor cost has increased considerably, and everything that pertains to the business, and the supply of gas has diminished in accordance with the amount that has been sold. A few years ago you could get several times as much gas in an individual well as you can by drilling today, and the cost of that well today is very close to twice the cost five or six years ago. The increased cost of transportation is a very large factor, and the depletion of gas territory is a considerable factor. It takes many more wells to secure the same amount of gas formerly used, and the transportation costs have increased enormously.

The gas that is delivered to Ashland, Catlettsburg and Louisa is compressed about three times. In addition to that we have individual compressors scattered through the field that pump into the main transportation line, and the gas is then delivered to larger compressor [fol. 818] stations and compressed twice in the main line. A compressor station is used when the rock pressure of the well equalizes or gets close enough to the line pressure that we are carrying in the line—in other words, for a customer at the delivery end the maximum line pressure is 325 pounds. Now, while the well had a rock pressure of five or six hundred pounds they would feed in against that 325 pounds pressure. Now the larger part of the wells have gotten down to 300 pounds rock pressure, and some of them below that point, consequently they will not put gas in against the 325 line pressure. Then you install this compressor and relieve that pressure from the wells and pull the pressure down to about 60 to 100 pounds, which allows the wells to flow into the lines quickly. Then the gas is compressed to a pressure of 325 pounds and forced on the market. One compression at 325 pounds will not keep up the pressure. It will proceed a certain distance with that compression and it will have to be picked up and again boosted up to 325 pounds, or the pressure necessary to deliver it on the market. That depends a [fol. 819] great deal on what the demand is on the other end of the line.

The greater part of the gas supplied to Ashland, Catlettsburg and Louisa—in fact, practically all of it—comes from Boone and Kanawha counties, West Virginia, an average distance of about 90 miles. The quantity of gas which the Warfield Natural Gas Company can produce from its own land would not be sufficient to supply the demand in Ashland, Catlettsburg and Louisa on cold days. I don't believe it would even take care of the demand on a warm day. The Putnam county field is not sufficient to supply the three cities mentioned. Neither is the Warfield gas territory when combined with the Putnam county field sufficient to supply the three cities. The Warfield company's producing wells are about 50 to 55 miles from Kenova, at Kermit, West Virginia. The main producing properties of the United Fuel Gas Company are east of Catlettsburg and Huntington in West Virginia. It is gas coming from these eastern fields which is used chiefly to supply the three cities, supplemented to some

extent by a small portion out of Putnam county, which is about 40 miles from the three cities.

The Warfield Natural Gas Company refuse to make extensions in Ashland, Catlettsburg and Louisa pending the hearing before the Railroad Commission. We felt the prices would not justify any further expenditure, and also contemplated withdrawing from the [fol. 820] state, if necessary, providing we were allowed, of course, to do so, and we did not care about making any further investment or taking on any further business at those prices, as we considered them confiscatory and did not want any more business at that price.

The contract between the United Fuel Gas Company and the Warfield Natural Gas Company by which the former was to sell the other gas at 30 cents a thousand, since July 1st, 1923, has been kept in every detail, and the United Fuel Gas Company is selling the Warfield Natural Gas Company gas at 30 cents and being paid by that company.

Cross-examination.

I believe the United Fuel Gas Company during the years it operated in Kentucky exercised the right of eminent domain in Kentucky. I can recollect no specific instances, but I suppose we possibly did. If we had that right we possibly did so. We did business in Kentucky under our corporate charter, which business was to sell gas by retail and by wholesale. We have purchased gas acreage, but not in the last year. We purchased from the Navajo Gas Company a small gas acreage. I do not remember at the present time what we paid. There were conditions surrounding that purchase that [fol. 821] would influence the price to a great extent. We didn't pay as much as $250 an acre for it. It was not average gas territory, in the first place, and in the next place we had a contract through some favors that we had granted the company for the purchase of the gas on their acreage during the entire life of it, so naturally it would take the sales value away from the property to a certain extent. In other words, the contract was worth much more than the property.

I couldn't give you the price or value at which the acreage in West Virginia and Kentucky is listed for taxation.

The money that is spent for compressor stations is a part of the capital investment and is reflected by the books, which also show the increase in overhead expenses. The books should be correct. This gas acreage was assembled before my coming with the company. It came through a combination of smaller companies put together originally by the Ohio Fuel Oil Company.

We own quite a large amount of acreage in fee, but I couldn't say exactly how much. That is, we own the gas in fee but not the surface. We own a small amount of surface acreage. I don't pay much attention to the surface. The greater part is leasehold, with some gas rights purchased in fee. The rentals on these leaseholds [fol. 822] are paid out of the earnings, and I believe that would be charged to operating expenses. The books would show it.

To a small extent we have increased prices during the last four or five years—nothing in proportion to what expenses have increased.

We have no monopoly of the gas situation in West Virginia. Our chief competitors are the Hope Natural Gas Company, which is the largest, Pittsburgh & West Virginia Company, Carnegie Natural Gas Company and Manufacturers' Light & Heat Company. In the southern part of West Virginia the Huntington Development Company is the largest, and the Dunbar Natural Gas Company. The Huntington Development Company is getting approximately the same price for gas that we are. We do not sell the Huntington Development Company any fuel gas. In case of an accident or two at the Huntington's compressor station, or at times when their lines were blown up during cold weather, we allowed them to purchase enough to take care of consumers for a day or two, as long as it was necessary to keep them from suffering, but supplied no gas for industrial purposes. This was merely taking an expensive gas and selling it for a cheap price at that time. We had to take that away from a high-priced market to do it.

[fol 823] We extract gasoline from gas through the absorption method, which is a series of absorbers partly filled with mineral seal oil. The gas merely goes through these absorbers and the mineral seal oil acts as a blotter and blots the gasoline content out of the gas and allows it to go back in the line and to the market, and we refine the mineral seal oil and extract the gasoline from it. This gasoline is extracted from the gas by the Virginian Gasoline and Oil Company, whose stock is owned by the stockholders of the United Fuel Gas Company—that is, practically all of it. I could not tell you what per cent. of the revenues derived from this source are credited to United Fuel Gas Company. This year there will be very little, if any, because I don't believe there has been any money made in gasoline. I can't recollect the figures for last year.

The arrangement between the United Fuel Gas Company and the Virginian Gasoline Company is we allow them an eighth royalty for the use of the gas—the United Fuel gets an eighth royalty. I would say that is a fair contract. I do not know the income from this source in 1922. I am talking about the gasoline at the present time, not in 1922, in regard to the contract.

[fol 824] The reason we divorced the gasoline business from the gas business was it was not any part of the gas business, and the Public Service Commission of West Virginia held that the consumer was entitled to a certain proportion of the money made on the gasoline. The Public Service Commission held that 50 per cent. should be credited to the gas business, and that is the way we are dividing it now, which is reflected by the books, but I can't keep those figures in my head.

"Q. To refresh your memory, I will ask you if in 1922 50 per cent. of the net income from gasoline which was ordered to go to the United Fuel Gas Company as part of their earnings did not amount to $1,171,752.22."

"A. I suppose that is right. I don't remember the exact figure, but I don't see why it should be reflected as a part of our earnings. I know of no other company that is donating its earnings in gasoline to the domestic consumer, and I can't see any reason for it."

The United Fuel Gas Company made an expenditure to produce that gasoline, and I should think that they would be entitled to it. It does not come off of the operated acreage, and until we build these [fol. 825] plants and put on these operating plants gasoline is blown into the air.

In fixing the value of the gas acreage at $250 an acre I did not consider the gasoline content, but only the gas proposition.

Extensions that are being made at Ashland now are paid for by the consumer, who signs an agreement to the effect that providing this is a temporary connection or we withdraw from the state the expense will be taken care of by them.

I could not give you the dividends declared by the United Fuel Gas Company since 1909, but the books will show it.

I did not value the Kentucky gas acreage at $250 per acre. It does not possess as high a value as the gas acreage in Roane and Kanawha counties, West Virginia. The gas acreage in Wayne county is not as valuable as that in Roane and Kanawha counties, West Virginia. The gas acreage in Kentucky which is operated would be probably $125 or $150 an acre. In fact, I would consider the gas acreage in Roane worth two or three times as much as I would the gas acreage in Kentucky, per acre.

I do not think Mr. Wyer was mistaken in fixing the value of the operated gas acreage at $300 per acre. I have just been a little more [fol. 826] conservative than Mr. Wyer. I think the values have been much increased. There is no doubt about it being worth considerably more than what I have estimated it. It is to a considerable extent a matter of judgment and knowledge of the territory, and about what we would expect by operating it.

The gas business is a hazardous business. No man can tell when you go out and pick out a vast amount of acreage how much of it is good and how much of it is not. You have certain indications to go by in ascertaining what is good territory and what is bad, but in determining that we usually spend a good bit of money. The money spent in developing property is charged to operating expense, I believe.

"Mr. Altizer: I think you are mistaken, Mr. Wallace. The record before the commission shows that was true in the early days of the company, but it has not been for a number of years."

"Mr. Diederich: I will ask Mr. Altizer a question for information. How long has it been true, Mr. Altizer?"

"Mr. Altizer: Seven or eight years, and all this investment has been put back in capital. Some companies start one way and some [fol. 827] another. I assume now we have changed over."

The Witness (resuming): We have never, to my recollection, supplied Ashland, Catlettsburg and Louisa with gas from the Martin county field. There is no line down to Martin county from Ashland, but only the line that transports the gas from Roane county. There is a line connecting Kenova and Kermit, West Virginia, that runs down through Fort Gay and Louisa and connects with this com-

pressor station at Walbridge, but the gas could be transported the other way, provided it was not under contract and needed in Louisville and other places.

The gas sold to the Louisville Gas & Electric Company is measured at Inez, Kentucky. We sell that company by wholesale. I don't recollect just what the contract price is. I believe that if we supply them as much as 7,000,000 feet daily the contract price would be 25 cents per thousand. That is an old prewar contract that is pretty hard to live under. None of the gas goes by the way of Ashland or Catlettsburg. Part of its goes by Louisa. The gas that is put through the Walbridge compressor station comes from the Prichard property in Wayne county, and recently we purchased temporarily some gas from the Columbia Gas & Electric Company in Wayne [fol. 828] county. The Columbia Gas & Electric Company is one of the parent companies, and we just merely trade gas with them. In other words, it would be the same price as we sell it to them wholesale.

I couldn't say that we purchased any gas in Lawrence county, Kentucky, but if we do it is a very small quantity. We purchase in the neighborhood of 20 per cent of the gas we sell in the market. I could not state the average price, possibly about 8 cents. We have contracts considerably over that and some old time contracts at less than eight.

I should estimate that the average daily gas production in the Kentucky field is around 4,000,000 daily.

We purchase some gas from the Union Gas & Oil Company for resale, and their field is located in Lawrence county, I believe. It would not come into the same line Louisa is on. We purchase some gas from the Pilgrim Oil Company in Lawrence county, but not any considerable amount. If we purchase any gas from the Ohio Fuel & Light Company it is a trivial amount.

The Warfield Natural Gas Company was organized to do business in Kentucky. It was organized to take over the Kentucky property [fol. 829] of the United Fuel Gas Company. It was done to allow the United Fuel Gas Company to cease doing business in Kentucky. I felt that the United Fuel Gas Company's business was unprofitable, they could make no money under the conditions. I would not say that we had anything in mind relative to evading the Railroad Commission's order. No doubt it was to put ourselves in a better technical position.

Redirect examination.

I stated that I did not include any gasoline value in the opinion which I expressed on the value of the gas lands, but I gave the gas value only.

And on the final hearing of this cause, in addition to the foregoing evidence, witnesses were introduced by both parties and their testimony heard by the Court, in substance and effect as follows:

T. O. SULLIVAN, of Pittsburgh, Pennsylvania, on behalf of the plaintiff, testified:

I have lived in Pittsburgh about eighteen years, engaged in the natural gas and oil business with the Hope Natural Gas Company and the Hope Refining & Construction Company principally; vice-[fol. 830] president and general manager of the Hope Natural Gas Company since 1918. Prior to 1918 I was general manager of the Manufacturers' Light & Heat Company, and for four or five years previous to that time was superintendent or general manager of the People's Natural Gas Company, and prior to that connection I was with various different companies in Ohio, New York, Pennsylvania, Kentucky, in different capacities since 1886.

The Hope Natural Gas Company is engaged in the business of producing and selling natural gas, and to a small extent in the oil business. It operates in the middle and northern part of West Virginia, in the counties of Roane, Calhoun, Gilmer, Harrison, Doddridge, Wetzel, Ritchie, Monongalia, and several others, in all about twenty counties in the state. The Manufacturers' Light & Heat Company operate in West Virginia to a very considerable extent, having leases, wells, pipe lines, compression stations in different parts of the state, principally in the northern counties, like Monongalia, Wetzel, Ritchie, Harrison, Doddridge, and some other counties. The People's Natural Gas Company operates in Pennsylvania entirely. It produces gas in Greene, Washington, Allegheny, Armstrong and some of the southern counties of Pennsylvania adjoining [fol. 831] the West Virginia territory. I would like to add in regard to my connection with the Manufacturers' Light & Heat Company that they also operated in Ohio and Pennsylvania, as well as West Virginia.

The number of wells the Hope Natural Gas Company now has in West Virginia and has had for several years varies, depending upon the number that are drilled each year and the number that are abandoned. At the present time we have right around 3,100 wells in the State of West Virginia, and during my connection with the Hope Company it has varied from about 3,400 down to 3,100 wells. Last year we produced in the neighborhood of 30,000,000,000 feet of gas from those wells.

I am in a general way acquainted with the gas fields in the State of West Virginia. I am acquainted in a general way with the gas fields in which the United Fuel Gas Company operates in West Virginia. I am not familiar with the territory controlled by that company in Kentucky, except in so far as I have gathered by examining maps and data in connection with it. I have never been over that territory, but I have been over the territory in West Virginia, or some parts of it. The leaseholds and wells of the United Fuel Gas Company are located principally in Roane, Kanawha, Boone, and I believe some in Logan and Mingo counties. [fol. 832] West Virginia, also some in Jackson county. The territory parallels the anticlinal structures which have been laid down on the geological maps for the state of West Virginia, and seems to be well located for the production of gas. The wells which

have been drilled on the territory show very clearly that it is gas territory.

I am acquainted with the history of these gas fields, as shown by the books of the United Fuel Gas Company and by the records which have been submitted to me. My information is that last year the production from the United Fuel Gas Company's own wells was approximately 37,000,000,000 cubic feet of gas.

I have examined the maps of the company which are kept in the offices of the Ohio Fuel Supply Company in Pittsburgh, and which I was informed were duplicates and exact copies of the maps of the United Fuel Gas Company kept at Charleston. The office of the Ohio Fuel Supply Company is the office of Mr. F. W. Crawford, who is president of the United Fuel Gas Company. The United Fuel Gas Company controls approximately 815,000 acres. I examined the rock pressure, the initial pressures in the different fields and the [fol. 833] present pressures, to ascertain what the decline in rock pressure was, but I did not examine or have any information relative to the open flow or the production of those wells at the time of their initial completion. I made this examination to form an opinion as to the probable character of the territory where this property was located from the operations which have been done on it. That would show the decline which had occurred in the field since the commencement of drilling, and taken together with the amount of gas which had been produced in the field, it would be one of the items which would help to show the probable amount of gas remaining in the field.

I believe I am qualified from my knowledge and experience to give an opinion as to the value of the gas reserves held by the United Fuel Gas Company.

The defendants object and except to this witness testifying as to the value of the gas rights of the plaintiffs for the reason that he is not shown to be a competent witness upon the question.

The reasonable value of the gas territory owned and controlled by the United Fuel Gas Company to a willing purchaser, considering that such purchaser would assume the obligations of the United Fuel Gas Company to any owners of the surface real estate, and considering further that the purchaser would be under no obligations to supply any particular market, but could sell the gas in any open market he could find, would be, in my opinion, approximately $34,000,000. [fol. 834] Under these conditions I would consider the gas producing territory of the United Fuel Gas Company worth that amount of money.

I have examined the location of the wells on the properties on the maps and from my experience as an operator of gas properties it is my opinion the operations have been very wisely conducted—in fact, rather more so than is usually the case in developing gas properties. This was possibly on account of the territory being held in large blocks so that the wells could be spaced to better advantage than where a territory is owned in small parcels and requires closer drilling than was the case in this instance.

I have operated gas properties under substantially similar conditions, with the exception that I never operated any property where the territory was held in such large blocks. Usually it was divided up among smaller owners. I never did have as favorable conditions as exist with the United Fuel. That fact affects the values of the gas properties, for the reason that it permits of a more economical operation of the properties than would be possible if the ownership was divided up in small blocks. The acquisition of this property in a large body, and the exclusion of any independent ownership, or [fol. 835] relatively small independent ownership, was very desirable when conditions were such that it could be obtained in that way. It permits of the location of the wells more advantageously, with a view to obtaining the gas from a certain number of acres from each individual well, and also in the location of pipe lines and handling of the product. It is also true that it permits the location of the wells without having strict regard to preventing drainage from contiguous or adjoining wells.

In giving the valuation above, I did not take into consideration any part of the company's plant or equipment, but gave my judgment as to the value of the gas territory.

The Hope Natural Gas Company acquires a great deal of gas territory, and has done so in past years. The officers of that company have consulted and advised with me as to the advisability of purchases and the amounts to be paid therefor, and this has continued since my connection with the company, and my judgment has been acted upon to a large extent by the officers of that company. Mr. John R. Corrin, who is also vice-president of the Hope Natural Gas Company, has charge of the acreage and location of wells of the company, and he frequently acts on his own judgment, but in cases where he does [fol. 836] not feel inclined to do that we have consulted together about it.

My valuation is based on selling gas in an open market. I had in mind a particular market. There is in Pittsburgh a market for large quantities of gas to steel mills and other manufacturers, and I had in mind the fact that several of the different companies, the Hope Natural Gas Company among others, have lines in West Virginia in close proximity to the lines of the United Fuel Gas Company, where they could purchase gas—in fact, do purchase gas now—from the United Fuel Gas Company for transportation to markets in Ohio and Pennsylvania. We could take a larger supply than we are now getting from the United Fuel Company if we could get it. We are purchasing all we are entitled to take under a contract which we have with them.

In order to take more gas I would want to know that the gas was available, so that I could go to our customers and assure them of a supply over a period of time. I might be able to get more gas from the United Fuel Gas Company for a comparatively short time, but I wouldn't have any assurance of a continuance of it and couldn't assure customers of a continuance of it under the present arrangement but if I knew a supply in that field was available constantly

[fol. 837] for the purposes of this market I could get customers to absorb it, either here in Pittsburgh or in the Ohio market.

I did not consider in fixing this value on these properties that there might be any value to the gas for the extraction of gasoline. If it should possess any value for that purpose it would increase my estimate to that extent.

In a general way I am acquainted with the producing, transportation and distribution plant of the United Fuel Gas Company. Assuming that plant to be worth from twenty-five to thirty million dollars, I do not think anyone would be justified in constructing such a plant for the distribution of natural gas unless it had behind it a reserve acreage such as the United Fuel Gas Company has. In order to justify the investment of such a large sum of money any prudent investor would want to have a large surplus acreage of gas territory so that he might feel sure of a supply of gas over a long period of time. It would be good judgment to secure additional acreage if it appeared to be prospective gas producing territory.

The Hope Natural Gas Company purchases gas from other producers at the wells. The prices vary, depending on location and whether or not the gas is delivered to the present pipe lines of the Hope Company or if they have to put an investment in to reach it. [fol. 838] It varies from 10½ to 18 cents, or thereabouts. If it is delivered to the lines of the Hope company then a higher price is paid, possibly as high as 16 or 18 cents a thousand. The difference compensates the producer for laying the line. These purchases are made in the West Virginia gas field. The purchases referred to at from 10½ to 14 cents and up to 18 cents where it was delivered to the pipe line of the Hope Company are mostly on contracts made in years past, especially the 10-cent contract. Contracts made in recent years have carried a higher price.

The gas we purchase from the United Fuel Gas Company is delivered at Cedarville, West Virginia, and the average price last year was right around 22½ cents a thousand feet for that gas; it might have been 22¾ or 22½; that is the average price. We are still buying gas under that same arrangement. That price, I might say, is a fluctuating price, depending upon the quantity of gas delivered. It goes up to 30 cents a thousand. The more we take the more we pay. That contract lasts until June, 1925, when the price is to be readjusted. The contract has a year and a half. The original contract [fol. 839] expires January 1st, 1927, but we have just negotiated an extension which extends six months longer, but subject to a rearrangement of prices in June of each year, and the minimum price has been raised to the average price paid last year.

Cross-examination.

The head offices of the Manufacturers' Light & Heat Company and the Hope Natural Gas Company are in Pittsburgh, Pennsylvania. The Hope also has offices at Clarksburg, West Virginia. The Ohio Fuel Supply Company have an office in Pittsburgh, where the president is located. The United Fuel Gas Company has no office in

Pittsburgh. Mr. F. W. Crawford is connected with the United Fuel Gas Company and with the Ohio Fuel Supply Company. The Hope Natural Gas Company distributes gas in West Virginia in the towns of Parkersburg, Mannington, and Sistersville principally, and several other smaller places. It sells the balance of its gas at wholesale to different companies. The delivery in some cases is made at the Ohio river, in other cases at the state line between West Virginia and Pennsylvania, and sometimes delivered to other companies in West Virginia. The Hope Natural Gas Company has an acreage of approximately 800,000 acres, located in West Virginia. Part of it is in Calhoun county, and I believe the United Fuel Gas Company has [fol. 840] some in Calhoun county, or just south of Calhoun county in the adjoining county of Kanawha.

I have no map available that shows the location of the holdings of the different companies in West Virginia. Our maps show the holdings of different companies to some extent, according to the best information we can get, in that portion of the state where we are operating. We have no map showing the location of our property and the United Fuel Gas Company's property in West Virginia.

I was not acquainted with the initial open-flow production of the wells of the United Fuel Gas Company only as I obtained it from the records which were furnished me. I have very little information on the open flow. I don't think that was kept when these wells were drilled. The rock pressure is what I thought you had reference to. I obtained information regarding the rock pressure from the company's records.

The information I have is that there were very few dry holes drilled in what is known as the Clendenin field in Roane and Jackson counties. The 815,000 acres owned by the United Fuel Gas Company is scattered through several counties that I have named. [fol. 841] I couldn't say how many tracts it is in; I don't know. My information is that the United Fuel Gas Company classify their fields into four different fields. My recollection is that it was something over a hundred thousand acres, possibly 115,000 acres, held by them in Kentucky.

My recollection is that 10½ cents is the lowest price we have on any of our gas purchase contracts at this time. A great many of the contracts where we are paying that price they are urging us very strongly for an increase in price. We had years ago some contracts where we bought gas for 10½ cents, but in order to enable the people to operate their leaseholds and to get the gas we had to increase those prices. I wouldn't say it was voluntary; we increased it. We wanted the gas pretty bad, and price was an object to the people who had it to sell.

I know the directors of the Hope Natural Gas Company and some of the directors of the United Fuel Gas Company. I can't say that I know them all. I may know them all, but I don't know who they are, whether they are directors of the United Fuel Gas Company or not. There are no directors of the Hope Natural Gas Company who are also directors of the United Fuel Gas Company, the Ohio Fuel Supply Company or the Columbia Gas & Electric Company.

[fol. 842] The Hope Natural Gas Company is owned by the Standard Oil Company of New Jersey. I believe the stock of the Ohio Fuel Supply Company is for sale in the open market and that anybody can own a part of it who wants to put the money into it. I can't speak entirely for the Standard Oil Company of New Jersey, but as far as my knowledge goes they don't own any of the stock of the Ohio Fuel Supply Company. It is not considered a Standard company.

I only know what the United Fuel Gas Company classifies as operated acreage, which is around 135,000 or 140,000 acres operated or proven, I think, and the balance is what they call reserve acreage. A great deal of it has been pretty well proven by the operations which have been conducted. The Hope Natural Gas Company has possibly around 250,000 acres of operated acreage. I speak from memory only. Of course, that acreage, operated or unoperated, is something that is changing continuously. As drilling progresses what we term unoperated or undrilled acreage goes over into the operated column. Likewise operated acreage wells are being abandoned, which comes out.

Our company has been in business since 1898.

Our contract with the United Fuel Gas Company does not provide [fol. 843] for any number of heat units. We buy it as it comes out of the field regardless of the heat units.

Redirect examination:

In fixing the value of the holdings of the United Fuel Gas Company I did not make any separation of the Kentucky holdings. I put the valuation on the property as a whole. I did not consider the Kentucky acreage as valuable as the West Virginia acreage. I considered that it was of some value.

John B. Conrad, a witness for the plaintiff, testified in substance and effect:

That he lives in the city of Pittsburgh, Pennsylvania, and is engaged in the natural gas and oil business and has been so engaged for nearly thirty-five years; that at this time he is connected with the Hope Natural Gas Company, the Reserve Gas Company, the Clarksburg Light & Heat Company, the Connecting Gas Company, the River Gas Company, the Hope Construction & Refining Company and the Marion Oil Company; that he is assistant general manager and vice-president of the Hope Natural Gas Company and has held the position of vice-president since about 1912; that as such officer [fol. 844] of the Hope Natural Gas Company he primarily looks after their land department and the operations of the company, particularly the operations of the territory for the drilling of wells; that he also has charge of the matter of acquiring new territory for the company and surrendering old territory, directing where it shall

be operated and when the operations shall be suspended, and that he has had this sort of control for the last fifteen years; that up until five or six years ago Mr. John G. Pugh also acted with him in this regard; that prior to 1912 he was connected with the Hope Natural Gas Company as head of the land department, assistant treasurer, and at one time assistant general superintendent; that his connection with that company has been since the year 1902.

That the Hope Natural Gas Company at the present time has approximately 900,000 acres, of which about 300,000 acres was drilled, which territory extends through about twenty or twenty-two counties, extending from the northern end of the State of West Virginia to the central part of the state. It has acreage in each one of these twenty or twenty-two counties and has wells in each one of them, with pipe lines, and the amount of gas it produces from its own [fol. 845] wells runs from thirty to forty billion cubic feet per year, and that it purchases probably fifteen to twenty billion feet in addition; that it has at this time approximately 3,100 live gas wells; that it has had at times a larger quantity of acreage and there have been times when it has had more wells, which was because of the abandonment of wells and the acquiring and surrendering of territory; that it had at one time about 1,300,000 acres, but that a large amount of territory has been surrendered, and to some extent new territory acquired, but not enough to take its place.

That the fifteen to twenty billion cubic feet of gas per year purchased by the Hope Company is acquired from 300 to 350 independent operators and some of it also from large operating companies; that the lowest price paid any of these independent operators is 10½ cents at the present time, and that it runs up from this price to 18 cents per thousand cubic feet; that the average price for all of the gas purchased from these independent operators would be from 14 to 16 cents; that he considers it good policy to buy this gas at this price, as well as to drill and produce gas from the territory owned by the company; that there have been times when the company had gas [fol. 846] that it was difficult to dispose of; that in his judgment the gas which the company has in the territory controlled by it is certainly worth as much as the company is paying for gas to these independent producers; that the Hope company produces gas in every gas producing county north of Roane; that these counties include Brooke, Marshall, Wetzel, Tyler, Doddridge, Wood, Pleasants, Monongalia, Marion, Harrison, Lewis, Calhoun, Gilmer, Barbour, Braxton and at the present time the company is drilling a well in Preston county.

That he is also general manager of the Reserve Gas Company and has been such for ten or twelve years, that his duties with that company are practically the same as they are with the Hope company; that the Reserve company operates in Harrison and Lewis counties.

That the River Gas Company, with which he is also connected, is a small company operating entirely in Ohio and producing no gas in West Virginia; that he has the same connection with that company in the management of its affairs that he has with the Hope Com-

pany; that he has been connected with the Connecting Gas Company for about the same length of time that he has with the River Gas Company; that the Connecting Gas Company is a transportation com-
[fol. 847] pany entirely and does not produce any gas.

That he has been connected with the Marion Oil Company, either in charge of its land department or as an officer of the company, since 1902; that prior to his connection with the Hope Natural Gas Company in 1902 he was employed by the South Penn Oil Company and was engaged in the acquisition of gas territory and the production of gas for that company in West Virginia and some in Pennsylvania; that for the last twenty-seven years he has been actively connected with the selection and acquisition of gas territory in the West Virginia gas fields.

That he is acquainted in somewhat of a general way with the properties of the United Fuel Gas Company; that he acquired that knowledge by reason of the fact that great blocks of acres now held by the United Fuel Gas Company were formerly owned by the Hope Natural Gas Company and were transferred by that company to the United Fuel Gas Company or its predecessors, together with a number of wells, something like 35 or 40 wells, and during the time that this territory was held by the Hope company he was more or less familiar therewith; that he has examined the records of the United Fuel Gas Company as to production from its fields, the drilling and location
[fol. 848] of its wells and rock pressure of the wells at various times to a limited extent; that from his knowledge of United Fuel Gas Company's territory, from his examination of the field itself and of the records of the company, he is in a position to fix a value on the gas field owned and controlled by the United Fuel Gas Company; that he is acquainted with the sands in which the gas is discovered in the various fields in which the United Fuel Gas Company operates; that he is acquainted with the production from all of the wells of said company—that is, that he knows the amount of gas produced by that company in the last few years, and that this amount is almost equivalent to the gas produced by the Hope Natural Gas Company; that the United Fuel Gas Company has in operation at this time about 800 wells, which have varied in past years; that he is familiar with the territory of United Fuel Gas Company with respect to its being closely connected up in one body or segregated by independent ownership, and that it is well blocked up, said territory being held in large blocks; that this is a great advantage in operation by reason of said company being able to space its wells to much better advantage and by reason of not being compelled to drill offsetting wells where some
[fol. 849] competitor has one farm adjoining four or five farms held by the company, where it is compelled to drill offsetting wells on all these adjoining farms to prevent the drainage of the gas by such competitor; that frequently in order to obviate the necessity of drilling such offsetting wells the land owners are paid the equivalent of a gas well rental in lieu thereof, but notwithstanding this a certain number of such wells have to be drilled in order to protect the ter-

ritory, this practice of paying a rental in lieu of drilling being only done where it is more economical than the drilling of a well would be.

That he is acquainted with the geological formation in the gas fields of the United Fuel Gas Company, and that a portion of the territory held by said United Fuel Gas Company has been sufficiently tested to determine that it is productive of natural gas; that other parts have not been so tested; that the development so far carried on has been very wisely done.

The defendants object and except to this witness testifying as to the value of the gas rights of the plaintiffs for the reason that he is not shown to be a competent witness upon the question.

That in his opinion the value of the gas reserves owned and controlled by the United Fuel Gas Company, excluding from consideration the physical plants of the company, meaning thereby the transportation, distribution and producing systems, and considering it solely as a gas producing property, and from the standpoint of the [fol. 850] producer selling his gas in a free, open market, uncontrolled by any public regulating body, would be worth at least $45,000,000, and in that estimate he does not consider any value that might be added to it by reason of the extraction of gasoline from said gas, if such could be done; that if it has any value for this purpose it would be in addition to the value given by him; that he is not very familiar with the properties held by the United Fuel Gas Company in Kentucky, and that in fixing the amount above he put no value on the Kentucky holdings, and that if these Kentucky properties are worth anything such value should be added to the estimate given by him.

That in fixing this value he did not doubt for a minute that there would be a market for much more gas than the United Fuel Company is able to produce to the manufacturers of Pennsylvania and Ohio, if they were assured of a regular supply of that gas; that this market would be sufficient to absorb the production of the United Fuel Gas Company, and that in considering selling this gas in the markets of Pennsylvania and Ohio he has considered the price at which natural gas is selling in those markets today for industrial [fol. 851] purposes; that he has considered the price that the People's Natural Gas Company are charging their industrial consumers at the present time and what some of the other companies are charging such consumers; that he does not see how natural gas can ever be worth less than it is at this time; that the amount being produced is gradually getting less right along, and as a consequence the price will go up; that there are very few new fields, and the old fields are being rapidly drilled up; that the People's Natural Gas Company are selling industrial gas in Pittsburgh for 45 cents per thousand cubic feet.

That he is acquainted to a considerable extent with the production, transportation and distribution system of the United Fuel Gas Company, and that assuming these systems to be worth $25,000,000 to $30,000,000 a company or individual would not be justified in constructing the same unless it had a reserve gas supply such as is held

by the United Fuel Gas Company, and that in his opinion the holdings of the United Fuel Gas Company are necessary and proper to afford a reasonable supply, in order that the producing, transportation and distribution systems may be justified, and that in his judgment it should acquire additional gas acreage if it can be done.

[fol. 852] Cross-examination:

That the Hope Natural Gas Company at one time held 1,300,000 acres of gas leases; that it transferred or sold to what is now the United Fuel several hundred thousand acres, and has surrendered acreage in addition to this; that he does not know just how many acres have been surrendered, because they are surrendering it every day and acquiring new acreage; that there is hardly a month goes by but what some acreage is surrendered; that altogether there has been surrendered several hundred thousand acres; that the acreage surrendered, in the opinion of the witness, was not good, but that the company's officers have been mistaken about this a number of times, other people coming in and drilling such surrendered acreage and getting good wells on it, but that in his opinion as a rule his company's judgment was justified in this regard.

That in his opinion the development of the United Fuel Gas Company demonstrates that from 200,000 to 250,000 acres of its territory is proven gas territory; that the balance of it is more or less speculative, but that there must be a good reason for holding it; that the geological formation is such that it leads the company's officers to [fol. 853] think there is something there or they would not hold it; that at the time the Hope company took up the two or three hundred thousand acres which it subsequently surrendered it had equal reason for thinking that it might be valuable, and that the United Fuel Company may also be mistaken as to part of this acreage, and probably are.

That when the Hope company buys gas from independent producers in some instances it lays the lines to the wells, but that the gas comes to the company free from rentals, taxes and royalties, except that there are a certain amount of taxes that the Hope company has to pay on such gas, although it pays no taxes on the well, on the leasehold nor on the farm from which the gas is produced; that that is an expense the producing company has to bear; that the Hope Natural Gas Company, the Reserve Gas Company, the Connecting Gas Company, the Marion Oil Company and the River Gas Company, with which he is connected, are all controlled by the same people, the stock being entirely owned by the Standard Oil Company of New Jersey, except the Clarksburg Light & Heat Company, the Reserve Gas Company, the Marion Oil Company and the Connecting Gas Company, and in these companies the Standard Oil Company of New Jersey has the controlling interest.

[fol. 854] That the Hope Natural Gas Company sells its gas at wholesale at the present time for 35 cents a thousand cubic feet, and makes these deliveries at the state line between Pennsylvania and West Virginia, or the Ohio River, and in one or two cases down in West Virginia a slight distance from the line; that the furthest dis-

tance from the fields at which these deliveries are made is about 75 miles; that the People's Natural Gas Company buys some gas from the Hope Natural Gas Company and has some production of its own; that it purchases gas from independent producers.

That the witness has not known of any new gas fields being developed in recent years; that he has heard of a well being drilled near Huntington, West Virginia, but is not advised as to what it amounts to; that a couple of wells have also been drilled in Nicholas county, but he does not know what they amount to; that neither of these developments can be called a field; that he is not acquainted with the Kentucky field or any of the production discovered there in recent years.

That in the United Fuel Gas Company territory in West Virginia the gas is obtained in the salt sand, the Injun sand, the Weir sand and the Big Lime principally, some being obtained also in the [fol. 855] Berea; that the Hope Natural Gas Company obtains gas also in all of these sands except that in the Weir sand only a small amount is obtained in Calhoun county by that company; that other large producers of gas in West Virginia besides the United Fuel Gas Company and the Hope Natural Gas Company are the Manufacturers' Light & Heat Company, Carnegie Natural Gas Company and the West Virginia Central Gas Company, which is a part of the Eastern Oil Company—these are the principal ones; that the Hope Natural Gas Company is the largest producer, and that the United Fuel Gas Company is the next; that the Philadelphia Company, which he omitted, is also a large producer of gas.

That he is not as well acquainted with the affairs of the United Fuel Gas Company as he is with the affairs of the Hope Natural Gas Company, and that his estimates to a certain extent are based upon information furnished to him by the United Fuel Company and to a certain extent by his knowledge of the territory and the wells that were turned over to the United Fuel Company by the Hope Company about fourteen years ago; that the Hope company is still leasing gas territory whenever it can find any, and that the amount paid for such leases depends on where the leases are; that [fol. 856] it is a matter of trading, and the company gets them for the least amount it can; that there is very little acreage in the Hope Company's territory to be secured at this time, other companies all having what the Hope Company has not, but very, very few leases are offered to us now; that he is interested in securing as good a price as he can for the Hope Company's product.

Redirect examination.

That the principal matter considered by him in arriving at the value fixed by him upon the gas rights of the United Fuel Gas Company was the 200,000 to 250,000 acres of property which he considered sufficiently tested to show that it was producing territory; that he gave comparatively little consideration to any other interests held by that company.

T. B. Gregory, introduced on behalf of the plaintiff, testified, in substance and effect:

That he lives at Emlenton, Pennsylvania, having his office in the city of Pittsburgh; that he is engaged in the natural gas business and has been so engaged since 1884; that he is president of the Manufacturers' Light & Heat Company, president of the Union Heat & Light Company, director of the Pennsylvania Fuel Supply Com-[fol. 857] pany, vice-president of the Reno Oil Company of West Virginia, treasurer of the Tyler Oil Company of West Virginia, and is connected with some other companies; that all of these companies are engaged in producing and distributing natural gas except the Tyler Oil Company; that he has been connected with the Manufacturers' Light & Heat Company as its president for a little over three years, and that as such he has general supervision of the affairs of that company; that all matters in regard to acquiring new territory and purchasing gas for that company are submitted to him; that he has the general charge of the matter of producing gas by that company; that it operates in Pennsylvania, Ohio and West Virginia, its operations in Ohio, however, being very small; that the Pittsburgh & West Virginia company produces gas in all of the counties in which the Hope Natural Gas Company operates and produces gas, and in perhaps one or two more; that it has leases in Nicholas and Upshur counties, in which the Hope does not operate; that the Pittsburgh & West Virginia Company has between seven and eight hundred producing gas wells in its West Virginia territory, from which it gets a substantial production; that the Reno Oil Company produces gas in West Virginia in small quantities; [fol. 858] that the Pennsylvania Fuel Company does not, it being entirely a Pennsylvania company.

That in the last few years his principal connection with the gas business has been through the Manufacturers' Light & Heat Company; that prior to that time he had been engaged in the natural gas business, being a director and secretary-treasurer of the Fairmont & Grafton Gas Company, that piped gas into Fairmount, Pallatine and Grafton, West Virginia, about 1892; that he has been actively connected with the natural gas business ever since.

That in the early part of the World War he was appointed assistant director of production, having under his jurisdiction the production of oil and natural gas in the Appalachian fields; that shortly after he was named as assistant director he was located in Washington, and that while there the Fuel Administrator asked him to organize as a separate bureau the bureau of natural gas and become director of it, which he did, and which position he held for eighteen months or until the war was over, being located at Washington during all of that time.

That during that time he made an investigation of the production [fol. 859] of natural gas and the extent of the various gas fields; that at one time he was a stockholder and took considerable interest in the United States Natural Gas Company and the Triple-State Gas Company, and was acquainted to a limited extent with the territory

held by those companies; that the territory held by these companies is part of the territory now owned by the United Fuel Gas Company.

That he is acquainted in a general way with the properties owned and controlled by the United Fuel Gas Company in West Virginia and Kentucky; that he is familiar with the maps and with the numerous well records; that he has had access to the records of the company showing production, the number of wells drilled, production of the various wells, the total production from the fields in the various years, and also familiar with the location of the wells on the ground from having seen them spotted on the map. He is also familiar with the rock pressure of the wells, both initially and as it fell off from time to time; that he is acquainted with the geological formations in the gas fields controlled by the United Fuel Gas Company; that he is acquainted with the sands from which the gas is obtained, and that he keeps himself posted at all times as well as possible about the gas situation in the various field in or near the [fol. 860] operations conducted by this company, for the benefit of his own company.

That his company does not purchase any gas directly from the United Fuel Gas Company, but it does purchase some gas from the Hope Natural Gas Company and that the Hope Company purchases gas from the United Fuel Company.

That he has examined the data showing the history of the gas production in the United Fuel Company's fields, and is acquainted with the extent to which said fields have been tested by drilling and development; that he is acquainted with the location of the United Fuel Gas Company's properties with relation to whether or not they are closely gathered together or whether they are segregated into independent holdings, or otherwise, through examining the same on the maps, and that they are extremely favorably located, for the reason that from tests made by drilling near and around said properties they are in the general trend of the gas and oil belt, and further that he does not know how anyone would go about to acquire such a block of acreage anywhere at this time, and knows of no other company that has such a favorable amount of acreage, for the reason that the wells can be located without being compelled to drill excessive [fol. 861] fighting lines or protecting lines; that a well is expected to draw from a certain amount of territory around it, and in a number of cases by drilling close to a line the owner of a territory may be compelled to drill many more wells than would be required to extract the gas if the territory was held in large blocks; that this occurs when someone else owns adjoining or contiguous territory and it becomes necessary to protect the territory from drainage or from wells drilled on said adjoining lands; that the United Fuel Company territory is particularly free from this objection.

That while he was director of natural gas for the United States Government, as before stated, he had occasion to particularly investigate the United Fuel Gas Company's supply, in connection with a request from the city of Louisville to ration this supply to the different localities taking gas from it; that in order to determine this question he made a particular investigation of the United Fuel Gas

Company's supply and made an order based upon this investigation; that he is fairly well acquainted with the markets for natural gas that are available for industrial purposes, free and uncontrolled by [fol. 862] any public regulating body, and that he has considered the United Fuel Gas Company's properties with relation to such markets, and that he is able from the investigation he has made and the information he has in regard to such properties to place a value upon the United Fuel Gas Company's gas holdings which he would advise a company with which he was connected to give for said properties in case it desired to purchase the same, and that he would unhesitatingly recommend the purchase of said properties at a minimum price of $30,000,000, excluding from consideration in this price the producing, transportation and distribution system of the company, and also considering that such producer would have an open, free market in which to dispose of the products; that he would consider it cheap at $30,000,000; that he does not give any consideration in this estimate to any value which the gas may have for the purpose of extracting the gasoline, and that if there is any such value it would be in addition to that price; that if the United Fuel Gas Company property was for sale he knows it could be sold for the price mentioned by him.

The defendants object and except to this witness testifying as to the value of the gas rights of the plaintiffs for the reason that he is not shown to be a competent witness upon the question.

That he is familiar with the producing, transportation and distribution systems of the United Fuel Gas Company, and assuming [fol. 863] that they are worth approximately twenty-five or thirty million dollars said company would not be justified in installing such a system unless it had substantial gas reserves, and that the gas reserves now being held by the United Fuel Gas Company are wisely held, considering the extent of its distribution, transportation and producing plants, and that it would be criticized if it surrendered any of said holdings, and would not be justified in installing such a system unless it had a gas reserve equal to or substantially equal to the one now held by it, and that if additional gas acreage was available in the fields where the United Fuel Gas Company now owns or controls its gas properties it would certainly be justified in acquiring such additional acreage for its future needs.

Cross-examination:

That the Manufacturers' Light & Heat Company purchases gas in the field and pays for it all the way from 12 cents to 35 cents; that he cannot recall any contract that his company has for less than 12 cents; that perhaps the maximum contract is 33 cents instead of 35 per thousand cubic feet;

That the Manufacturers' Light & Heat Company, up until about three weeks before the witness testified, was owned by above five [fol. 864] thousand stockholders; that at that time a considerable amount of the stock was turned in on a trade, through which it is now

held by the same stockholders, but in different proportions; that neither the Standard Oil Company nor any of its subsidiaries owns any stock in the Manufacturers' Light & Heat Company.

That the Manufacturers' Light & Heat Company has been heretofore interested in rate litigation and has now a case pending before the Pennsylvania Public Service Commission; that the same has been pending for a year without having heard anything from it, but that the company is collecting the rate; that his company is interested in distributing natural gas, as well as in producing it, and is interested in getting as high a price as can be secured for its product.

That neither the Reno Oil Company nor the Tyler Oil Company are controlled in any way by the Manufacturers' Light & Heat Company.

That he is acquainted with the different gas fields of the United Fuel Gas Company; that he has maps in his office showing these various fields, but that he has not any available to be made a part of the record in this case; that after his attention was called to the map on the last page of Exhibit B filed with the record herein [fol. 865] he thinks that it is a fairly good representation of the United Fuel Gas Company's acreage, except that in his opinion the company has more acreage than is shown by that map; that there are indicated on the map some six portions isolated from the Glenhenin field thereon indicated.

That the United Fuel Gas Company furnished gas to the city of Louisville; that it was supplying about 8,000,000 feet a day at the time he made the investigation referred to, this being supplied through the General Kentucky Gas Company, that this was turned over to the Central Gas Company down in the Kermit field; that he is not sufficiently acquainted with the system to say just at what point; that he does not know the price received, having made no investigation in regard to that, nor does he recall the price at which domestic consumers in Louisville were furnished gas; that the question being investigated was not one of rates but one of supply; that the question which came up was in reference to the use of some artificial gas, and was carried to the Kentucky Supreme Court and decided the same way the witness decided it; that the question involved was one of requisitioning a certain portion of the gas of the United Fuel Gas Company to be diverted to Louisville.

[fol. 866] That the Manufacturers' Light & Heat Company distributes gas at New Castle, in the state of Pennsylvania, that being the most northern large community which it supplies; that it also supplies some to Pittsburgh and the surrounding boroughs, as well as to Washington, Pennsylvania, in the Beaver Valley, and in Ohio River towns, including East Liverpool and Steubenville, Ohio, a portion of Wheeling, West Virginia, and all of the towns across the river from Wheeling, Bellaire, Tiltonville and all those towns through there, and New Martinsville, West Virginia; that it has 135,000 domestic consumers; that it sells gas to manufacturers at wholesale in Wheeling, West Virginia, where it gets 43 cents for

it; that the general rate to manufacturers is 45 cents except right in Wheeling, where there is a special rate of 43 cents; that the reason of this lower rate in Wheeling is because it is a little closer to the field; that the domestic rate in Wheeling is also 43 cents, and that these Wheeling rates are prescribed by the Public Service Commission; that about half of the gas sold by the Manufacturers' Light & Heat Company is purchased from independent producers.

[fol. 867] S. W. Meals, a witness introduced by the plaintiff, testified in substance and effect as follows:

That he resides in the city of Pittsburgh, Pennsylvania, and has lived there for something over six years, and is engaged in the natural gas business and has been so engaged for thirty-five years; that he is the president of the Carnegie Natural Gas Company, that his company sells gas in large quantities, practically all of it being sold to the Carnegie Steel Company, but a small percentage thereof being sold to consumers in and around the Homestead Works; that practically all of the gas sold by his company is to industrial consumers, except the domestic consumers along the pipe line where there are no other gas companies, and that there are about two thousand such consumers; that in addition to selling gas to the Carnegie Steel Company his company sells gas to the companies which supply Morgantown, and are also now selling gas to the Natural Gas Company of West Virginia, which is going into Wheeling, and they are supplying considerable gas also to the Philadelphia company and also some to the Hope Natural Gas Company and the People's Gas Company.

[fol. 868] That he is acquainted with the price of natural gas in the Pittsburgh district at wholesale, and has been so acquainted with said price for the last six years; that during that time the price has been gradually increasing, and that he thinks this gradual increase is due to the shortage of the supply and the fact that some of the industries are equipped for using it and cannot well do without it.

That he has made a study of the price which can be paid for natural gas for heat producing purposes in competition with coal and other fuels suitable for such purposes; that he is fully advised as to the demand for natural gas by the manufacturing enterprises of the Pittsburgh district, and that the present supply is not sufficient to meet such demand if the company supplying such gas could furnish a continuous supply during summer and winter; that if such continuous supply could be furnished there could be found an additional market for 100,000,000 feet a day, in addition to what is now being used; that this demand perhaps did not exist during the last summer on account of the depression in business, but if a supply could be guaranteed during summer and winter a market could be found for 100,000,000 feet a day; that gas is now being sold for this purpose at 35 cents in some industries that the witness knows of, and [fol. 869] that his company supplied quite a lot of gas to the Morgan-

town company and was advised by that company that it was selling it to the glass plants at 35 cents a thousand cubic feet, and that when it could be procured at this price these glass plants shut down their producers and took the natural gas, although the plants were located right in the coal field; that in a large number of cases natural gas at 35 cents a thousand cubic feet will displace coal for the purpose of producing heat units; that he knows of one instance in which a company is paying 45 cents for it for that purpose; that the Carnegie Steel Company has facilities for handling the coal and putting it through the producers at a lower cost than a smaller company, and with these facilities for handling it natural gas at 25 or 26 cents would be equal in heat units to coal at the present price, leaving out of consideration the conveniences and less expense in the use of such gas; that if 100,000,000 cubic feet of gas per day were available in Pittsburgh during the entire year it could be easily disposed of at 35 cents per thousand cubic feet.

Cross-examination.

That he is connected with the Carnegie Natural Gas Company, and [fol. 870] that both it and the Carnegie Steel Company are subsidiaries of the United States Steel Corporation, both being owned by that corporation; that his company has been able to furnish gas to the Carnegie Steel Company at 25 or 26 cents; that if the supply could be guaranteed the year round a hundred million feet a day could be disposed of in the Pittsburgh district; that this is based on the assumption that the industries in that district were running, but that even through the present very dull times a market could be found for that amount; that under present conditions, without the guaranty of such continuous supply, it could not perhaps be disposed of at that price, for the reason that a number of industries have gone to the expense of putting in producers and others of securing manufactured gas, and they would not go back to natural gas when they could not get it for winter business, but if they could be assured of a winter supply they would naturally go back to natural gas, for they much prefer it on account of less sulphur in it than the other, as well as for other reasons.

That his company produces the larger part of its natural gas in West Virginia, but some in Pennsylvania; that it is produced in the counties of Wetzel, Tyler, Harrison, Doddridge, Monongalia, Ritchie [fol. 871] and Gilmer; that Carnegie Natural Gas Company purchased a very small proportion of the gas sold by it.

CHARLES F. UEBELACKER

The appellants desiring it, and the Court being of opinion that to a fair understanding of the testimony it is necessary, orders that the testimony of this witness be reproduced in the exact words of the witness, which is done, as follows:

Direct examination.

By Judge Ritz.

Q Where do you live and what is your profession?

A My residence is Hackensack, New Jersey; my office address is 115 Broadway, New York City; my profession is consulting engineer; I am a partner in the firm of Ford, Bacon and Davis, Incorporated, Consulting Engineers, and their office address is the same as the one just mentioned, 115 Broadway, New York.

Q Have you had any experience as an engineer in the investigation and valuation of public utility properties or properties of like kind?

A I have spent the majority of my thirty-five years of active practice in the manufacture of apparatus that went into public utilities, the operation of the utilities, the construction of their plants and the examination of their operating conditions and valuation of plants [fol. 872] already in operation, and study of the rates which could be reasonably charged, considering the local conditions applying to individual companies.

Q Will you please state what, if any, school of engineering you are a graduate from and what experience you have had in the work of engineering, construction and valuation since your graduation?

A I was a graduate of Princeton University in 1890, with the degree of electrical engineer. From 1890 to '94, I was in the employ of the Brush Electric Manufacturing Company and their subsidiary, the Short Electric Railway Company, in positions from apprentice to assistant superintendent. In 1894, or practically the end of '93, I entered the employ of the Consolidated Traction Company of New Jersey, which was the predecessor of the present Public Service Corporation of New Jersey, as an armature winder, and remained with them until about the end of '97 in various positions from armature winder to chief engineer and master mechanic. I was also, during part of that time, in the transportation department as division superintendent.

At the termination of my employment with the Consolidated Traction I entered the employment of the Peckham Motor Truck and Wheel Company, at Kingston, New York, as works manager, and remained with them until about the end of 1899. My func- [fol. 873] tions with the Peckham Truck Company were the designing and direction of the shop work in the manufacture of trucks, otherwise running gears for street and steam roads. On leaving the Peckham Truck Company I was employed by the firm of which I am at present a member to operate for them, as their representative, the street railway, electric light, gas and water supply plants at Elmira, New York. I remained in this position as vice-president and manager of the Elmira Water, Light and Railway Company until about the middle of 1901, when the clients of my firm sold their interest in this plant. I then returned to the New York office of the firm as chief engineer, in which position I remained until 1912, when I became a partner in the firm and am still a partner in the

firm. During the period during which I acted as chief engineer for the firm and during my partnership I have been principally engaged on the construction of public utility properties and upon examination of such properties, including gas, electric lights, street railway and natural gas, for the purpose of either determining the desirability of purchase by our clients all for the improvement of operation or for the determination of proper rates to be charged for the service rendered. During that time I have also had some construction and investigation experience in irrigation and several in-
[fol 874] dustrial enterprises.

Q. Did any of these examinations and valuations which you have made, or any of the work of construction in which you were engaged, involve natural gas plants and properties?

A. I have investigated in all, for various purposes, I think about twenty-five or thirty natural gas plants. None of these investigations have involved construction, excepting one. They have almost all of them been made for the purpose of determining the desirability of purchase by our clients or for the purpose of determining proper rates to be charged for the service rendered.

Q. Will you please state where these plants that you have valued in this way were located?

A. In 1886 I made a report on the Philadelphia Company, the Pittsburgh Natural gas section. Following that, at various dates along, Manufacturers' Light and Heat, the Union Natural Gas Corporation, Fairmont Gas and Light Company, Southern California Gas Company, Northeastern Oil and Gas Company, and another report on the same, including also the Worth Oil and Gas and the Ashtabula Oil and Gas, Billings, Montana, Natural Gas, the Northeastern—another report on the Northeastern Oil and Gas, the Export Oil Corporation, the Southern Oil and Gas Company, the Livingstone Oil Corporation, the Alliance Gas and Power Company, [fol 875] the Southwestern Utilities Company, the East Ohio Gas Company, the Hope Natural Gas, the People's Natural Gas Company, the Reserve Gas Company, the River Gas Company, the Connecting Gas Company, Clarksburg Light and Heat Company, another report on the East Ohio Gas Company, the Gilland—that was not gas, that was oil—another report on the People's Natural Gas Company, another on the Hope, still another on the People's, still a fifth on the People's, the Northern Alberta Natural Gas Company, Valier, Montana—that is oil—the Southwestern Utilities Company, another report, Potter Gas Company, the Northwestern Utilities Company, the Oklahoma Natural Gas Company, the Okmulgee Natural Gas Company, United Fuel Gas Company. That is all I have listed here.

Q. In addition to these reports of natural gas producing and distributing companies, have you ever made any examinations and valuations of distributing gas, light and power companies in the larger cities of the country?

A. Yes, on either gas, electric light or street railway I have made reports and investigations in Pittsburgh, Pennsylvania—now, that is outside of the Natural Gas report, that was a report on the lighting and railway situation in Pittsburgh—in Philadelphia, Pennsyl-

[fol. 876] vania, first in connection with a study for the rerouting of the surface lines made for the Public Utilities Commission of the state of Pennsylvania, and secondly for the director of transit of the city of Philadelphia the arrangement and design of the Philadelphia subway and elevated system which is now in course of—well partially constructed; in New York on the Surface Railways, both a valuation and for three years I acted for the receivers as chief engineer in rebuilding a portion of the property, in Schenectady, in Buffalo, the Buffalo, Lake Erie and Western; in Nashville, Tennessee, Knoxville, Tennessee, Birmingham, Alabama, New Orleans, Louisiana, in Memphis, Tennessee, in Little Rock, Arkansas, in Houston, Texas, in San Francisco, California, Chicago, Illinois, St. Louis, Missouri, Baltimore, Maryland, Providence, Rhode Island, and there are others that I don't happen to have on the list and don't recall at this minute. As I stated in the beginning, I have spent about thirty-five years principally in the line of investigating, constructing and operating public utilities.

Q. The firm of which you are a member has a very large staff for the purpose of doing this work that you have described, has it [fol. 877] not?

A. Yes, it has. It is, of course, variable with the amount of work we have on hand. It will run—oh, from a hundred and fifty to sometimes two hundred and fifty and three hundred men, sometimes more.

Q. And it is very extensively engaged in the work of valuation of public utilities properties?

A. Yes, we have valued several billion dollars worth of properties altogether in the last ten years, including industrial enterprises.

Q. Have you, at the instance of the United Fuel Gas Company, ever made a valuation of its properties, including the properties of the Warfield Gas Company? If so, when?

A. Yes, a valuation dated December 31, 1923, was completed I think in February that year—of 1924.

Q. Will you please state, as briefly as you can, just what method you employed in making that examination and valuation?

A. In making the statement which you request, I will follow in a general way the summary of the valuation as submitted to the United Fuel Company, entitled, "Valuation, United Fuel Gas Company, Incorporated, December 31, 1923." In general, the method which we adopted was to prepare first an inventory, which is a list of physical [fol. 878] property and is distinguished from a valuation as containing the items of physical property owned, without prices attached. This inventory was prepared in part by the company and in part by our own force in the field. Those portions which were prepared by the company and submitted to us were then spot-checked in the field—in other words, members of our force would take the inventory submitted and go to the point at which the apparatus described therein was located and check at random certain portions of the inventory and also, at the same time, inspect the equipment to determine its condition. Between the portions of the inventory which were prepared by our own force and the portions which we actually spot-

checked we enumerated and inspected something over sixty per cent of the entire dollars and cents value of the inventory, and in the spot-checking of the portions of the inventory submitted by the company we found no error of any moment, and our conclusion from this spot-checking was that the total of the inventory submitted by the company was reliable.

We then proceeded to build up, after careful inspection of the company's records for the performance—by performance I mean the units of work accomplished by a certain number of men in a certain organization—the unit prices to be applied to the inventory. In [fol. 879] building up these unit prices we were governed largely by the performance indicated by the company's records and by the current prices of labor paid by the company at or about December 31, 1923. Now, I have referred to prices for labor as rates of labor. In other words, we determined from the records how many units of work a certain gang would perform in a day or in an hour, and then we applied to that number of days or hours the current labor prices about December 31, 1923. To these labor prices we added certain allowances for such items as timekeeping, foreman's supervision, insurance—labor insurance—that is, labor liability insurance—waste of materials, use and breakage of tools and sundry other items which are given in more detail later in this summary, and which items were included directly in the unit costs applied to the inventory.

In determining the prices for material we first examined the company's vouchers to see what prices they had paid, then checked these prices by obtaining quotations for purchase in large quantities—that is, for wholesale purchase such as a company of this size would make—direct from the manufacturer, and to the price thus determined we added a suitable allowance for freight, a suitable allowance for the [fol. 880] wastage of material, an allowance for the cost of purchasing material, an allowance for the checking and inspection of material into warehouses and handling in warehouses and checking out—in other words, the cost of keeping track of the receipt and disposal of material through the warehouses. These allowances which I have just mentioned also were included in the unit price of material entering into the unit prices applied to the inventory, and are distinct from what is termed later in the summary report before me general overheads.

Having then arrived by the application of the unit prices determined as above stated to the inventory at the net material and labor costs of the plant, we applied to these costs, by suitable percentages, allowances for general overheads as follows. I am now referring to page twenty-five of the summary of the report. Engineering and superintendence, administration, interest during construction, pre-construction costs, legal expenses, insurance and taxes during construction and cost of financing. The detail of the percentages applied to the labor and material cost of the property appears in the tabulation on page twenty-five of the summary of our report on the valuation of the United Fuel Company. The totals of these percentages amount to 21½ per cent on the labor and material cost of the [fol. 881] production system, 26 per cent on the transmission system,

22 per cent on the distribution system and 22 per cent on the general property, the general property being the general offices and other equipment of that kind which is used generally for the benefit of the system as a whole.

To explain in a little more detail the expenditures which these items are intended to cover, engineering and superintendence I think is well enough understood to make it unnecessary to enter into any detail on that. It involves the making of the original surveys, the original plans, the writing of the specifications, the examination and comparison of bids, the details of closing the contracts and a certain amount of supervision—engineering supervision—of the work in progress of construction.

The administration during construction covers the time and expenses of the general officers of the company during the construction period, in which period they are required to look after the providing of the necessary funds to meet the construction expenditures, to pass upon questions of desirability of various forms of construction and various bids for construction, and in general to supervise the expenditure of money and the general policy under which the construction is carried out.

[fol 882] Interest during construction is based on the assumption that the construction period of a plant of this kind would be from the beginning of construction to the beginning of operation two years, and also on the assumption that on the average during that two year period half of the total amount of money required for the construction would be actively employed and consequently interest on it would be due, and the rate of interest has been assumed for reproduction as of December 31, 1923, as eight percent.

The pre-construction costs, for which two and one-half percent of the labor and material cost has been allowed, are those costs which are ordinarily termed promotion costs and represent the time and expenses of the man or party of men who originally conceived the idea of establishing the enterprise, and also the preliminary engineering and legal reports necessary, the necessary expenses of incorporation, the necessary expenses of obtaining franchises and other rights which would have to be assured before it would be feasible to go ahead with the actual expenditure of money on construction.

The legal expenses cover those expenses which are involved during construction and I think require no further explanation to you gentlemen.

[fol 883] Insurance and taxes covers what taxes are actually paid during construction, for instance, on real estate which has to be purchased at the beginning of construction, or at least optioned, and insurance for liability for accidents in excess of liability insurance, and insurance on partially completed structures, and so forth.

The cost of financing is strictly cost. It does not include bond discount or any element of that kind. It represents merely the cost of introducing to the public and placing with the public the securities issued by the company. In other words, it would probably come in in the form of an apportionment of a banker's commission on the placing of the securities, and would represent the banker's actual

expenditure for legal opinions as to the correctness of the steps taken in forming the company, the validity of its charters and franchises, and possibly an engineering opinion on the feasibility of the enterprize, also the cost of printing the securities themselves and of registering them, and the wages of the banker's salesmen in distributing them to the public and similar expenses.

Q. Just there, Mr. Uebelacker, you have referred to legal opinions on the validity of the company's charters and franchises, and also engineering opinions upon the feasibility of the plan. I want to [fol. 884] ask you to state if this legal opinion and this engineering opinion would be independent of the engineering expense and the legal expense that the company would incur.

A. Entirely. They are expenses incurred by the banker in order to insure himself that he is placing before his clients a sound security.

Q. And he would want a legal opinion and an engineering opinion entirely independent of the company.

A. And almost universally follows that course.

Q. That is what I want to get at. Now, while we are on that question of general overheads, I will ask you to state if your experience in valuing plants of this character teaches you that the percentages you have allowed for these various items are reasonable and proper.

A. They are certainly reasonable. I believe they are quite conservative. As I stated in my testimony before the Commission in the United Fuel case, if I was making an estimate for a proposed enterprise I would allow at least thirty percent instead of the average of about twenty-three which I have allowed here. It frequently runs more than the amounts I have spoken of here.

Q. Did you ever have any actual experience in the construction of a natural gas plant where the general overhead expenses were kept [fol. 885] in detail, and if you have please state where that plant was and what the result of that was.

A. During the summer of 1923 the Natural Gas Plant at Edmonton, Alberta, was constructed under my supervision, and I had this class of expenses, with the exception of the promotion expense, which was not available to me, kept carefully separate. The result was that these expenses, exclusive of the promotion expense, which is estimated here at two and a-half percent on the labor and material cost, amounted to a little over twenty-two percent, as I recall it, of the labor and material cost actually expended under the supervision of our own men. Now, the promotion expense would be in addition to that twenty-two and a half percent, as applicable to the Edmonton plant. That was an entirely new plant. The city of Edmonton had never been supplied with gas, either natural or artificial. The field from which the gas was drawn had never been utilized previously, and it was necessary to—the field, however, had been developed—there were nine wells already drilled in the field; and it was necessary to connect those wells up with about eighty miles of transmission line to the city of Edmonton, and to build the distribution

system in the city of Edmonton and to obtain the clientele—that is, get the customers in Edmonton.

[fol. 886] Q. What can you say as to that plant having been constructed in an economical way or otherwise?

A. It was constructed in a very short space of time and possibly the labor and material cost might have run two or three percent high. As far as the overheads were concerned, the short space of time in which it was constructed would have a tendency to reduce those rather than to increase them.

Q. Then, as a matter of fact, if the construction of that plant had been spread over a longer period, your general overheads, of course, would have been larger?

A. Would probably have been a higher percentage. It is an actual fact the plant was constructed within a few thousand dollars of our estimate. The total expenditure was some three million dollars, as I recall it, and it was within a few thousand dollars of our estimate, but owing to the fact that we had to construct it between July and the 1st of the physical plant and its condition as of December 31, 1923. In labor and material, not in the general overheads.

Q. Your items, for instance, on interest during construction would be very much less than if it had been constructed over a longer time?

A. It would; the actual cost of interest was four percent, as I recall [fol. 887] it, instead of the eight which I have assumed for the longer period.

Q. Now, after you made this inventory of the plant, the actual materials and labor it took to construct it, added to the general overhead expenses, what, if anything, else did you do in determining the value of the plant?

A. The value of leaseholds. The procedure which I have previously outlined applied to the determination of the reproduction cost of the physical plant and its condition as of December 31, 1923. In determining the value of leaseholds we had available the report of Mr. R. E. Davis giving the estimated recoverable gas in the leaseholds of the United Fuel Company and the Warfield Company and the Cabin Creek Company.

Q. Now, what method did you use in fixing the value of the leaseholds?

A. In order to fix a value for this volume of recoverable gas, which as I recall it was about six hundred and sixty-three billion—I will refer to my summary here to make sure—referring now to the discussion of this subject in the summary beginning at page 29—I don't think I can state it better than just to read the principal enunciated here.

(Reading:) "The principal involved may be stated as follows. The measure of value to the owner or lessee of gas in the ground is [fol. 888] the difference between the prevailing market prices at which such owner or lessee can purchase gas delivered to the field mains and the cost to such owner or lessee of producing or maintaining with his own wells an equivalent supply of gas at the same point of delivery."

Q. Now, how did you ascertain the price at which the United Fuel Company could secure a supply of gas at the points indicated?

A. I proceeded to inform myself as to the conditions of a number of contracts under which gas was sold in the field under conditions which were not governed by regulating authority—in other words, the price was independent of any governmental regulation and from the difference between the prices paid in these instances and the field cost to the United Fuel Company of producing gas from its own holdings I deduced an average unit price or rather formed an opinion as to the proper unit price for gas in the ground, which opinion finally came to five cents per thousand cubic feet as of December 31, 1923. The detail of the various contracts on which I based this opinion appears in the summary beginning on page 30 under "Prevailing market price" and running through to page 44 and the top of page 45. On page 44 appears a summary of the six [fol. 889] contracts which I considered in arriving at my conclusion of a value of five cents per thousand cubic feet for gas in the ground, and the summary is as follows. A contract for purchase in the field by the Owens Bottle Works, contract price is ten cents per thousand, and deducting therefrom the cost to the United Fuel Company of producing from its own wells under the same conditions would leave 4.56 cents per thousand as the value of gas in the ground. Similarly, the purchase by the International Nickel Company in the field would leave a value of gas in the ground of 11.56 cents. Similarly the delivery of gas at Pittsburgh for industrial purposes at 30 cents per thousand, which price Mr. Meals, the manager of the Carnegie Company, stated he was authorized by his directors to contract for gas for—in other words, he was authorized to contract for any gas that would not cost in excess of 30 cents per thousand delivered at the mills in Pittsburgh—would give a value of 7.18 cents to the gas in the ground. Purchases by the South Penn Oil Company in the field at eight cents, which was their standard understood price, would give a value of 2.56 cents to the gas in the ground. However, it came to my notice during this investigation that the South Penn Oil Company had considerably exceeded their generally understood price of [fol. 890] eight cents in recent contracts—in fact, had gone as high as twelve cents, in which case the corresponding value of gas in the ground would be 6.56 cents instead of 2.56 as shown in the tabulation. The delivery of Gas at Cedarville, by the United Fuel Company to the Philadelphia Company's subsidiary, the Pittsburgh and West Virginia Gas Company, and to the Hope Company, at 22.63 cents average price in 1923, would give a value of gas in the ground of 5.1 cents. Incidentally, in 1924 the average price paid on those contracts has considerably exceeded the 22.63 cents. I have not informed myself as to the exact figure, but I believe it is approaching thirty cents now.

Q. That is, the maximum is approaching thirty cents?

A. The maximum is approaching thirty cents. The average is considerably in excess of twenty-two cents.

Q. The maximum is exactly thirty; the average is twenty-four something.

A. The purchase of dry gas in the field by the United Fuel Company at their ordinary standard price of $8\frac{1}{2}$ cents would give a value of 3.07 cents.

Q. Do you know whether or not that price is now maintained by the United Fuel?

A. I have not informed myself since the day of making these figures. I have assumed, from the general trend of the field, that [fol. 891] it is not, because I know the prices have gone up since I made these figures.

In view of these illustrations and the general trend of prices in the field, I formed my opinion that five cents a thousand was a fair minimum value as of December 31, 1923, for unrecovered but proven gas in the ground.

Applying this price per thousand to Mr. R. E. Davis's carefully prepared estimate of the volume recoverable gave a value of proven and probably productive acreage, these figures appearing on page 46 of the summary, of $33,155,422.00.

We then proceeded to determine a value for the unproven acreage; and the method of determining that value appears on the middle of page 45 of the summary of valuation under the heading, "Valuation of unproven acreage," and the principal was to apply to the area of the unproven acreage a cost per acre equal to the cost of acquisition of unproven acreage by the company in the year of 1923, which cost was $5.96 per acre, which, applied to the 552,319 unproven acres amounted to $3,293,754.00, making the total estimated value of leaseholds and natural gas rights $36,449,176.00.

Q. What other allowances were made by you in arriving at the total value of the company's property in the way of working capital [fol. 892] or going concern value or anything of that sort?

A. We have added to the figures above an amount for working capital on the basis appearing on page 28 of the summary of the report. I do not know that I can state it better than it is stated right in the report.

(Reading:) Working capital as shown in the estimates includes the amount shown on the company's books for materials and supplies on hand December 31, 1923, a reasonable allowance for cash in the bank, together with two months' average operating expenses based upon the year ending December 31, 1923. Another allowance has been made to cover stock of gas in lines and meters. I might add in that connection that we have not here taken into account the working capital necessary for a company of this character to carry on account of new construction and extensions. This is only the working capital necessary to support the company in its operating function.

Q. And that is made up of the money that it has to keep on hand to carry on its business?

A. Yes, sir.

Q. To pay off its hands and pay its bills?

A. Yes, and the money which it has invested in current material [fol. 893] and supplies.

Q. Do you know, as a matter of fact how the amount you have allowed there compares actually with the materials and supplies the company keeps on hand and the money it keeps on hand for those purposes?

A. The material and supplies is the actual inventory of the material and supplies as of about December 31, 1923, and is an actual inventory estimate of book value as of that date—it is the book value as of December 31, 1923. The cash in bank, I presume, is fairly representative of the actual cash carried for operating purposes, not the balance necessarily carried as cash in bank.

Q. Oh, no. You have allowed, I believe, for working capital about $900,000.00.

A. I think it was just about $900,000.00. That will appear on the summary statement $900,000.00; it appears on page 48, the general summary of the system. As I say, I have not included in that any allowance for the working capital necessary to carry on the extensions and other construction necessary for the future life of the company.

Q. Nor do I understand that you have included in that inventory any of the materials that were for new construction.

A. There might be some small amount of material that would be used on new construction in there, because no distinction is made in the warehouses between the material for new construction and the [fol. 894] material for maintenance. The warehouses carry a sufficient amount of material to take care of emergency requirements.

Q. What I meant by that was if the company was building a pipe line ten miles long or building a compressor station it did not include that?

A. No, there was nothing of that kind included. Of course, the construction department might call on the warehouse for a dozen valves or something of that kind they needed for an emergency; and to that extent the material and supplies would include construction.

Q. That amount would be entirely inconsiderable.

A. Yes.

Q. Did you add anything to this inventory for going concern value?

A. I have not. That does not, as stated in the summary here infer in any way that we do not believe that there is a large going concern value attached to this individual enterprise.

Q. From your observation and experience what would you say the going concern value of a plant like the United Fuel Gas Company's actually is?

A. Not less—taking into consideration the conditions under which the company operates—not less than ten per cent, and by conditions [fol. 895] I do not refer to the price which they are allowed by the governing bodies to charge for their product. I refer simply to their actual physical conditions under which they operate.

Q. What is meant, and what do you mean, by the term going concern value—what does it include?

A. A great many items. In the first place, one of the most important items is the existence of an organization that is trained in the handling of this individual plant and is familiar with the requirements of the customers of this individual plant; In the second place, it consists of the improvements in the plant made after construction—in other words, the adaptation of the various elements of the physical plant to operate in harmony. In the third place, a large element of going concern value in this case is the solidity of the gas producing acreage controlled by the company, preventing competitive drilling to a large extent. In other words, the company can drill a large proportion of their acreage in such a manner as to produce the gas most economically. In other words, if a well to two hundred acres would be the economical development for a certain sand and area, they can restrict themselves to a well to two hundred acres in a large proportion of their territory without running the risk of having the gas drained by marginal drilling by [fol. 896] competitors. In other words, they don't have to drill offset wells to the extent that the ordinary producing company does.

Q. In other words, the going concern value is the difference between the plant constructed and ready to put into operation and one actually in operation with customers that demand all its energies?

A. Yes. The actual connection of the customers, of course, is a large element in going concern value. The definition which I usually give to going concern value is those elements which tend to reduce the expense of doing business and to furnish a market for the product of an enterprise.

Q. Mr. Uebelacker, would, in your judgment, this element of going concern value be reflected in the price of the company's securities?

A. Yes, it certainly would.

Q. Then the difference between the price at which the securities could be sold before the plant was put in operation and the price at which they could be sold after it was in successful operation ought to fairly reflect the going concern value of a plant, should it not?

A. That is my opinion.

Q. What, from your observation, would you say is the ordinary [fol. 897] difference in per cent of the price of such securities at those two times?

A. That is pretty hard to say, Judge, because the examples which come under my notice have almost always some element involved which tends to conceal a portion of that accrual of additional value due to the making of a dead plant into a going concern. In other words, in financing, it is so usual that the securities put out at the time of original financing, before the enterprise is a live enterprise, are guaranteed in some way or another by some actually going business, that a part of that increment is concealed. Now, as a usual thing, even with that guarantee there will be some fifteen or twenty percent or perhaps more, depending on what the enterprise is,—how speculating the enterprise is—difference between the price of the securities placed when the enterprise is simply an idea and conception and before it has proven itself and the price

at which those securities will sell after the enterprise has proven itself a feasible, money earning proposition.

Q. You say that depends to some extent upon the speculative character of the enterprise as to how far it is a speculative enterprise?

A. Yes, it does.

[fol. 898] Q. I will ask you if there are very many enterprises that are more speculative in character than the production of natural gas?

A. No, there are not.

Q. And the more largely the element of speculation enters into it, of course, the larger that difference is between the going concern value and the value of the dead plant?

A. Yes.

Q. Now, I notice in the summary which you have been speaking of you have indicated there certain values new and certain values depreciated. I believe that is in the summary, isn't it?

A. Yes.

Q. How did you arrive at the element of depreciation shown in that summary?

A. We have termed it here deterioration. We arrived at that by inspection of the physical plant. In other words, of course, what physical plant is above ground is readily inspected for condition, and the buried pipe lines we had dug up in a large number of instances—I don't recall the exact number now, I think it was over two hundred instances—so that we could inspect at certain intervals the buried portion of the pipe lines. The exception to the physical inspection was the house meters. That, of course, it would not be [fol. 899] practicable to inspect physically, and we took there a record derived from the company's records of repairs and renewals of meters.

Q. From your experience in the valuation of gas plants do you think that estimate you have made fairly reflects the deterioration of such meters through the time they were in use?

A. Yes. As a general proposition, a natural gas plant which reflects on an inspection of this kind a condition much below seventy-five percent would not be capable of giving complete service—it would not be capable of giving good service. And if it reflects a condition much over eighty-five percent, it is probably a little overmaintained—say around eighty to ninety per cent is normal maintenance in order to give a hundred percent of service, and a plant which has some age and has gotten into the stride of its maintenance will remain for years, as long as normal maintenance is given it, at that percentage of condition, say around eighty percent—seventy-five to eighty-five is usual. That is, a plant does not depreciate year after year a uniform amount per year; it depreciates due to wear and tear—I will use the words deterioration instead of depreciation—it deteriorates to a certain point; and when it reaches that point in order to have it operate at a hundred [fol. 900] percent efficiency maintenance must be maintained at that point. It can't drop below that point or it won't operate. In

other words, these figures which accountants quote frequently of fifty and sixty per cent are impossible; they are simply bookkeeping.

Q. Did you find this plant in good working condition?

A. Excellent.

Q. Well maintained?

A. Well maintained.

Q. Did you make any division of the values of the plant into the different geographical units?

A. Yes, on page 49 of the summary appears a summary of the valuation by states, and is a geographical distribution of the plant of the United Fuel, Cabin Gas and the Warfield Company's as located geographically in the states of West Virginia, Kentucky and Ohio.

Q. That statement is the actual physical properties that are in the several states.

A. That is correct, with the overheads apportioned to them. Working capital is not apportioned.

Q. Did you make any distribution of this total value of the plant in which the various systems or elements that go to make it up as between the producing part of it and the distributing part and so on?

A. That is also given in the summary on page 49, which shows [fol. 901] — production system, transmission system, distribution system and general property and general overhead charges and working capital separately, as divided, excepting as to working capital, between the three states in which the plant lies.

Q. You have indicated the production system, the distribution system and the transmission system, I believe.

A. Yes.

Q. What do you mean by the production system?

A. The most detailed explanation that can be given of that is given on the succeeding pages, 50 and following, in which each of the principal divisions of production, transmission and distribution is divided into the accounts, as prescribed by the Public Service Commission of West Virginia.

Q. That shows the elements that go to make up the different divisions?

A. Yes, that shows the elements and details which go to make up each one.

Q. There are certain items of general expense and working capital. How did you distribute that to these various accounts—upon what basis?

A. Working capital is an account, as I recall it.

Q. That is an account under each of them?

[fol. 902] A. No, it is an account under general expense, as I recall it. Let's see how that is. I will have to refresh my memory on that.

Q. What I want to get at is how did you divide that up among the various systems—on what basis?

A. You are referring now to the states?

Q. No, the different systems of distribution, production——

A. I don't think it is divided into valuation.

Q. Here is what I was getting at. I have perhaps not made my-

self understood. For the purpose of working out the costs per thousand cubic feet of producing the gas and of transporting the gas and distributing the gas, you had to distribute that item of general expense among those various systems.

A. General expense, yes.

Q. And what I want to get at was the basis upon which you did that.

A. The general expense is distributed to the various systems in proportion to their direct operating expenses.

Q. Is that the fair and usual way of distributing general expense in a case like this?

A. Yes.

Q. You have indicated already how you ascertained the actual [fol. 903] value of a thousand cubic feet of gas in the ground. Your report indicates that you have also ascertained the cost of producing a thousand cubic feet by the United Fuel Gas Company. How did you arrive at that cost? I don't mean to go into details; I just mean in a general way.

A. By adding together the production expense, the depletion of wells in proportion to the volume of gas withdrawn, the depreciation of other production structures, the return on the value of gas rights and investment in production structures, including wells, and the amortization of the investment in unproven acreage; the amortization of the value of proven acreage is taken into expense at the five cents per thousand cubic feet at which its value was calculated.

Q. That would give you, then, the total amount to be realized from the production of gas.

A. Which is divided by the actual production by the company from its own leaseholds in arriving at the production expense per thousand feet. In arriving at the total price at the city gate which would be necessary to return the company a certain percentage, either eight or ten percent on the value of its property, there has been included in production, in addition to the amounts already stated, the cost of purchased gas.

[fol. 904] Q. Then you took that out again as a matter of expense.

A. In arriving at the total expense and return on investment that was included in production expense.

Q. As just the actual cost paid?

A. At the actual cost paid, but in determining the cost per thousand for production, which was arrived at at five cents for gas value in the ground, of course, the purchased gas did not enter into the costs; it was only the company's actual production.

Q. What did you find would be the actual return necessary to yield the company a return of eight percent on its investment for producing and transporting the gas to what you call the city gates, that is, the point at which it is delivered to the distribution system, including in that the value of the gas in the ground?

A. The figure which I now quote is based on the entire production and transmission expense and value responsibility in the state of West Virginia, irrespective of whether the property was originally in the name of the Warfield Company or the United Fuel Company.

and represents the city gate rate which would be necessary in order to return a rate of return of eight percent or ten percent on the [fol. 905] reproduction new value of the property involved in transmission and production, without distribution.

Mr. Diederich: Pardon me. What page is that on?

A. That is not in that report. The equivalent is in there, but I am quoting new figures as of August 31, 1924, whereas the figures in the report are as of December 31, 1923, and consequently there is a slight difference in the figures. At a rate of return of eight percent the city gate rate, which is also the rate of any gas delivered at the confines of West Virginia, would be 30.18 cents. At a ten percent return on reproduction cost new it would be 33.1 cents.

Judge Ritz:

Q. You have referred in your testimony to a summary of your valuation which you have filed. I will ask you to file that summary as part of your testimony, marking it Uebelacker exhibit number one.

A. I file it, marked as requested.

Uebelacker Exhibit Number One

(The document referred to was filed, marked as above indicated, and is hereto appended.)

Q. This Uebelacker exhibit number one purports to be a summary [fol. 906] of the various items going to make up the physical properties of the company. You have stated that you made an actual inventory of all of these items as they existed at the time. Have you compiled that inventory in a tabulated form, and if you have I will ask you to file the same as part of your deposition, appropriately marked.

A. The detailed inventory is contained in five supporting volumes, entitled, "Volume one, production system property," "Volume two, transmission system property," "Volume three, transmission system property, part two," "Volume four, distribution system property," and, "Volume five, general property."

Refer to Exhibit #2 page 110, Evidence

The detailed inventory and itemized appraisement of the property here referred to by the witness, consisting of five volumes, is not included, for the reason that, as will hereinafter appear from the testimony of W. J. Hagenah, engineer expert for the defendants, the said engineer expert for the defendants entirely agrees with the items of valuation made by Mr. Uebelacker, and it is therefore deemed unnecessary to include these detailed inventories and unit prices, the summary filed as exhibit No. 1 containing the conclusions derived therefrom.

Q. In determining what you have called the city gate rate, I will ask you to state whether or not all of the properties of the United Fuel Gas Company, the Warfield Gas Company and the Cabin

[fol. 907] Greek Gas Company have been included in your figures, except the distribution plants of these separate companies.

A. No, not quite all (referring to map). At Kenova, in West Virginia, begins a line owned by the Warfield Natural Gas Company extending northwest and entitled on the map in the back of the summary U exhibit number one as lines U and F, this being a transmission line which is not involved in the general production and transmission of gas to the city gates of the United Fuel Company, but is applicable entirely to the transmission of gas to the northwestern customers of the Warfield Company, and that line, its full expense of operation, has not been included in arriving at the city gate rate which I have mentioned before. Likewise crossing the Ohio River between Ashland and Coal Grove is a line entitled on the map F 10, and G 6, the 10 and 6 indicating the size of the line, which serves the towns of Coal Grove, Ironton, Wheelersburg, Sciotoville, New Boston, and Portsmouth in the state of Ohio. This line also has been excluded in arriving at the city gate rate mentioned above.

Q. In figuring a city gate rate, then, for the cities of Ashland, Catlettsburg and Russell, I believe, there would have to be added to the city gate rate which you have given the necessary amount for [fol. 908] maintaining the transmission line you have first mentioned, and in addition the amount necessary to amortize the expense in that line and to pay for the depreciation or maintenance of it.

A. And also for a return on the investment.

Q. For a return on the investment in it.

A. That is correct. I might add there that a small portion of line G is also involved in the handling of gas to the city of Ashland.

Q. Is that the one you said crosses the river at Coal Grove?

A. That crosses the river between Ashland and Coal Grove.

Q. Have you made a valuation of the distribution plants in Catlettsburg, Ashland, Russell and Louisa, Kentucky?

A. Yes.

Q. Did you make that valuation of these distribution plants in the manner that you have indicated that you made the other, and is that value included in the inventories you have filed?

A. The valuation was made in exactly the same manner which I have indicated for the valuation as a whole, and the detailed valuation for each of these cities will be found in the detailed inventory. That appears on page 53 of the summary report, U exhibit one, under [fol. 909] the heading "Kentucky" at the bottom of the page.

Q. Have you made up a statement showing the rate which it would be necessary to charge in the cities of Ashland, Catlettsburg, Louisa and Russell for natural gas distributed by the Warfield Natural Gas Company through its distribution system in order to yield to it a return of eight percent upon its investment and pay the other charges which are necessary to be taken care of in order to amortize the investment in the light of the gas fields?

A. The estimated average retail price of gas—that is, the average for industrial and domestic, without any separation of the rates—to show an eight per cent return on the cost of reproduction new of that portion of the United Fuel Gas Company involved in arriving at the

city gate rate of 30.18 cents before mentioned, and in addition the expense and value responsibility of that portion of the Warfield plant involved in carrying the gas from the point at which the United Fuel Gas Company would deliver it at 30.18 cents to the ultimate consumer would be 45.23 cents. That is on the basis of reproduction new without deterioration.

Q. Now, taking off the deterioration that you observed, what would it be?

A. Taking off the deterioration would reduce the so-called city [fol. 910] gate rate of the United Fuel at an eight per cent return on reproduction cost less observed deterioration to 29.58 cents at the West Virginia line; and the addition of the expense and the value responsibility of the Warfield Company in transmitting the gas from that point, at which the United Fuel Gas Company delivers it, to the ultimate customer on the basis likewise of an eight per cent return on the reproduction cost of that portion of the Warfield property involved, less observed deterioration, would make the total average price for domestic and industrial gas, delivered at the points in question, 43.92 cents per thousand cubic feet.

Q. Have you made up statements showing how you have arrived at those figures?

A. I have. There are two sets of statements that will be necessary to cover those. I will have to reassemble some of these in order to get the sets in correct order. The statements are all here, but they will have to be reassembled.

Q. Now, have you made up statements showing what rate should be charged for gas in these Kentucky cities upon the assumption that the Warfield Company used all of the gas produced by it at what it cost that company to produce it, supplying the deficiency with gas [fol. 911] purchased from the United Fuel at the city gate rate or state line rate of the United Fuel to which you have referred?

A. I have prepared two such statements, one based upon the cost of reproduction new and the other based upon the cost of reproduction new less observed deterioration.

Q. Now, I will ask you to file the statements showing the price necessary to be charged in order to yield the return indicated by you, on the assumption that all of the gas is received by the Warfield Company from the United Fuel Company at the city gate rate, marked Uebelacker exhibits three and four.

A. Do you wish to distinguish as to which is the reproduction new and which is the deterioration?

Q. Well, they show on their face.

A. Yes, they show on their face.

Q. It won't be necessary to do that.

A. I file the same marked as requested.

Uebelacker Exhibit Three.
Uebelacker Exhibit Four.

(The statements referred to were filed, marked as above indicated, and are hereto appended.)

Q. I will ask you also to file as part of your testimony, marked Uebelacker exhibits five and six, the statements which you say you [fol. 912] have made up showing the rate necessary to be charged, on the assumption that all of the gas produced by the Warfield Company and purchased by it in its own fields was delivered to the Kentucky city customers involved here, and the deficiency made up by purchases at the city gate or state line rate.

Uebelacker Exhibit Five.
Uebelacker Exhibit Six.

(The statements referred to were filed, marked as above indicated, and are hereto appended.)

Q. You have ascertained in these statements the price necessary to be charged in order to accomplish the results indicated in the statements for the gas delivered to the Kentucky cities involved here as a whole. Can you divide that or apportion it as to domestic and industrial consumers, and if so will you please state what rate should be charged to domestic consumers and what rate to industrial consumers to accomplish the result indicated.

A. I have the calculation which is the division as between the responsibility of domestic and industrial consumers corresponding to exhibit number four. I have not as yet prepared the calculation which would correspond to exhibits number three, five and six, but the same proportion to the average rate would apply in exhibits three, five and six that applies in exhibit four. This calculation corre- [fol 913] sponding to exhibit four is, however, only in manuscript form at present.

Q. Will you please state what proportion of the return you have allocated to domestic consumers and what proportion or percentage thereof to industrial consumers in arriving at the result?

A. The net price to industrial consumers, based on a return of eight per cent on the deteriorated value and the delivery to Warfield customers served from lines U, F and a small portion of G, would be for domestic, retail price, 50.24 cents per thousand, and for industrial 33.27 cents per thousand, the application of which rates to the industrial and domestic sales would result in the average rate shown on exhibit three.

Q. In allocating this average between domestic and industrial consumers, how did you arrive at the conclusions you have reached?

A. I found by actual examination of the rate of demand for the supply of gas of all of the consumers of the United Fuel that during the period of maximum demand for domestic gas, measured by the three coldest successive days in four different years or four different seasons, on the average at that time the domestic consumers required [fol. 914] seventy-nine and a fraction per cent of all of the capacity of the transmission and distribution system. From an examination of the expenses and investment in distributon systems I found that practically ninety per cent of the expense of distribution was involved in the supplying of domestic customers. As a brief explanation of that statement, I may say that the number of domestic customers

is a great many times the number of industrial customers, and that the expense of distribution per customer is practically the same irrespective of the volume taken, so that the large number of domestic customers with the small individual volume, results in a comparatively heavy charge per thousand for distribution expense. I say, amounting to about ninety per cent of the distribution expense applicable to domestic customers as against about ten per cent applicable to industrial customers. Now, during the year 1923 in the whole year the domestic customers used about half the total gas distributed by the United Fuel in West Virginia, and the industrial customers used about half. In other words, the half of the gas used by the domestic customers had to bear about three-quarters of the value responsibility, that is, depreciation, return on investment, amortization and so on, of the transmission and distribution plants, and about [fol. 915] nine tenths of the distribution expense. In considering the situation in the field, the production system, I have assumed that there was no difference in the cost of production of the gas delivered to domestic consumers and the gas delivered to industrial consumers, although possibly a strict analysis of that situation would show that there were certain costs which were attributable to the large demand made by domestic consumers in the extremely cold weather which would not be incurred for the supply of gas to strictly industrial consumers. However, any element of that kind was neglected in this determination of the relative price to industrial and domestic consumers.

Q. And you divided that on the basis of the sales to each class of consumers?

A. By the sales to each to arrive at a cost per thousand.

Q. If you had considered an increased cost due to increased demands during cold weather by domestic consumers, that would still more have raised the price to domestic consumers.

A. That would still further have widened the difference in price between domestic and industrial. In passing, I should draw attention to one apparent inconsistency in my statements here. As I stated, I found that the domestic demand in the three successive coldest days [fol. 916] in four different periods was seventy-nine and a fraction per cent of the total amount, and in my allocation I stated that I had allocated seventy-five per cent of the transmission and distribution investment responsibility and the transmission expense to the domestic consumers. That difference between the seventy-nine and seventy-five per cent was an allowance for a slightly increased demand on the part of industrial consumers in cold weather.

Q. If you had applied the rule strictly you would have assigned seventy-nine per cent of it to domestic consumers instead of only seventy-five per cent?

A. That is correct, and that would have still further accentuated the difference between the prices for the two classes of service.

Q. I will ask you to file, as part of your deposition, a statement showing the distribution of the average rate necessary to be charged to domestic and industrial consumers, marked Uebelacker exhibit seven.

Uebelacker Exhibit Seven.

(The statement referred to was filed, marked as above indicated, and is hereto appended.)

Q. You have spoken, Mr. Uebelacker, of the method used by you in developing unit prices. I will ask you to state whether or not [fol. 917] you have made up a statement showing this method in detail, and if you have I will ask you to file the same as part of your deposition marked Uebelacker exhibit number eight.

A. I have prepared such a volume, describing the method by which we arrived at each class of unit prices used in determining the valuation of the United Fuel Company as of December 31, 1923, and here file the same marked as requested.

The volume showing the method of arriving at unit prices filed by the witness as Exhibit No. 8 is not included herein for the reason that the unit prices arrived at by him are concurred in by the engineer expert for the defendants, as hereafter appears from his testimony, for which reason it is deemed unnecessary to extend the record by including this volume.

Q. I will also ask you to state whether or not you have made up, from the best information obtainable by you, a statement of the analytical historical cost of the physical properties of the United Fuel Gas Company, including in it the properties of the Warfield Natural Gas Company and the Cabin Creek Gas Company, and if you have made up such a statement I will ask you to file the same marked Uebelacker exhibit number nine.

A. I have made such a statement, and the method of compiling that valuation is fully described in the text accompanying the statement, and I file the same marked as requested.

[fol. 918] Uebelacker Exhibit Number Nine.

(The document referred to was filed, marked as above indicated, and is hereto appended.)

Q. In the statement you filed as Uebelacker exhibit number one is contained, at the end, a map. I wish you would state whether or not you drew that map or had it done, and if you did not how you procured it.

A. The actual original from which this map was photostated was drawn by us, it bears our signature, but it was undoubtedly copied from a map of the company.

Q. Do you know whether or not the locations indicated on there for the various gas fields are drawn to scale or whether they are simply rough indications?

A. They are simply rough indications of the outline of the field. The map is intended to be diagrammatic, and not a scale map.

Q. Mr. Uebelacker, there has been some mention made in this case of the extraction of gasoline from the natural gas by the Virginian Gasoline and Oil Company. Have you included in your estimates of valuation any items of property of the Virginian Gasoline and Oil Company?

A. I have not included in my estimates any items or expenses of the Virginian Gasoline and Oil Company, or that portion of the expense and investment of the Cabin Creek Oil Company which is in-
[fol. 919] volved in the production of gasoline and oil.

Q. Have you in any way considered the effect of the extraction of the gasoline upon the gas, and if so, how have you considered that in these valuations?

A. I have considered it only to the extent that in Mr. Davis's figures for gas reserve there is not included that volume of gas which is actually extracted, a matter of possibly some thirty cubic feet per thousand cubic feet of gas produced, by the removal of the gasoline. In other words, a thousand feet of gasoline carrying gas will come out of the gasoline extraction plant at say 970 cubic feet. Now, the figures for gas reserve which Mr. Davis has given in his report are the 970 cubic feet which remain after the gasoline has been extracted, and not the thousand feet which actually come out of the well. I have not otherwise taken the gasoline into consideration in these figures. In other words, there is no deduction from the transmission expense or the transmission investment on account of the carrying of gas from the fields to the gasoline abstraction plants. As an actual fact, the expense of transmission would not vary appreciably, whether the gasoline was abstracted or not; and the maintenance of transmission lines if the gasoline was not extracted would increase on account of the condensation of gasoline in the pipes and
[fol. 920] the consequent eating out of rubbers in the joints. However, I have a figure here which was applicable in May, 1924, which would show the result of making an allowance for the receipt by the company at that time of fifty per cent of the net earnings from the extraction of gasoline.

Q. Are you very well acquainted with the present price of gasoline and with the price that has obtained for the last several months?

A. I am currently familiar with it. I have not followed the quotations carefully.

Q. Which would produce the greatest returns of the United Fuel Gas Company from gasoline, a one-eighth royalty upon the gasoline extracted or one-half of the net profits realized therefrom by the Virginian Gasoline and Oil Company at this time and for the last five or six months?

A. Well, just as an impression of the prices that have existed for the last five or six months, and positively to date, at the price ruling today, the one-eighth of the gross would be an infinitely better return than one-half of the net, because the net is today minus.

Q. In other words, you mean at this time gasoline is produced
[fol. 921] and sold at a loss?

A. I should say so, yes. I have not made any detailed figures to prove that it is an actual loss, but I know that with the price cut and with the result which I obtained when I did make the actual figures it must be a loss.

Q. You have stated that in making the calculations of rates necessary in order to procure fair returns you included nothing for the item of going concern value, and you have stated that in your judg-

ment at least ten per cent should be added for this item. I will ask you to state how that would affect the rates given by you.

A. Figured at an eight per cent return on the going value calculated as ten per cent of the reproduction of the physical property, without the value of gas leaseholds, the city gate rate would be increased at the Ohio River by practically one cent for return on this additional value and the amortization of this additional value, and the city gate rate of the Warfield Company including its proportion of such going value, would be increased 1.35 cents, which is inclusive of the one cent above mentioned. The distribution rate of the Warfield Company in the towns above mentioned would be increased 1.82 cents, which is inclusive of the 1.35 cents increase in the city gate rate. These all apply to the average of all gas sold, whether industrial or domestic, and would be in addition to the [fol. 922] figures shown on exhibits three to seven, inclusive.

Cross-examination.

By Mr. Diederich:

Q. I believe you have made investigations for a good many gas companies in West Virginia, Pennsylvania and Ohio?

A. Several, yes.

Q. Among which was the Hope Natural Gas Company?

A. Yes.

Q. The Manufacturers' Light and Heat Company?

A. Yes, that was an investigation quite a number of years ago. That was in 1909.

Q. And the People's Natural Gas Company of this city?

A. Yes, sir.

Q. Were they rate investigations?

A. In the case of the Manufacturers' it was an investigation as to the desirability of purchase. At the time there was some discussion of the purchase of the Manufacturers' by the Philadelphia Company I was asked to make an examination of their accounts and conditions—not so much accounts as the results and conditions—to see whether or not it was a desirable purchase. In the case of the People's it was a rate case.

[fol. 923] Q. Did that case go through the courts?

A. It is about to go before the Public Service Commission——

Q. Of Pennsylvania?

A. It was started before the Public Service Commission in '21. It has been lying dormant. I believe the next hearing is on December 3rd.

Q. Now, you based your valuation of the leaseholds and acreage held in fee by the United Fuel Gas Company largely upon the report of Mr. Davis as to the gas content of this acreage?

A. Yes, I have, however, made determinations in similar circumstances of my own, and I went over Mr. Davis's report, examined his method, and I am willing to say that I believe his report is cor-

rect and his method the most reliable known, and it is carefully worked out, and I believe the results are correct.

Q. But you based it upon his —.

A. I based it upon his —. I did not go through the calculations necessary to duplicate his work.

Q. In fixing the going concern value of the properties in Kentucky, the cities of Ashland, Louisa and Catlettsburg, you assumed that they had certain vested rights and certain franchise rights or vested rights in those streets?

[fol. 924] A. I made that assumption, yes.

Q. Do you know at what rate the United Fuel Gas Company or the Warfield Natural Gas Company is selling gas to the Louisville Gas and Electric Company at Inez, Kentucky?

A. No, I do not. I have not informed myself as to that. I presume I have it in my records, but I am not at present informed.

Q. Did you make a calculation as to what rate should be charged by the United Fuel Gas Company in Huntington, West Virginia, based upon an eight per cent return?

A. Not in Huntington separately.

Q. In Charleston?

A. Nor in Charleston separately. I made it as a whole. I am not sure but what I may have made a calculation which has not been put in evidence in any case for Charleston separately, but as a general proposition my calculations were based upon the entire distribution in West Virginia.

Q. Did you make a calculation which you offered in evidence or a statement in evidence before the Public Service Commission of West Virginia as to the rates that should be charged for gas on a basis of eight per cent return less observed deterioration, and did you fix that rate for domestic purposes at 46.44 cents per thousand [fol. 925] cubic feet and an industrial rate of 21.50 per thousand cubic feet?

A. Will you give me the page?

Q. Page 131.

A. You are reading directly from my testimony, are you not?

Q. Yes, page 131. Did that rate apply to Huntington?

A. I believe that applied to all cities in West Virginia in which the United Fuel distributed directly.

Q. That would apply to Huntington, Kenova, Ceredo?

A. Everything within the West Virginia boundaries.

Q. That included distribution in those cities?

A. That was the distributed rate.

Q. Do you know at what price the United Fuel Gas Company sells their gas to the Columbia Gas and Electric Company?

A. I do not recall the exact figures; in the neighborhood of seven cents, but I do not recall the exact figures.

Q. You have shown the revenues in one of these reports that you have filed of the Gas Company, have you not?

A. I think I did in one case, but I think that was the revenues

only for gas distributed in West Virginia, and did not include the [fol. 926] revenues derived from sales outside of the state.

Q. Did that include sales made to the Columbia Gas and Electric Company?

A. No, it would not.

Q. Did you figure what was their present rate of return on the property?

A. Only for that portion of the gas which was sold in the state of West Virginia. In other words, that was a West Virginia case, and I excluded all sales which were not made in West Virginia, and the corresponding proportion of plant and operating expenses.

Q. What you did was to find the present value of the plant and then apportion it——

A. Apportion it to the sales in West Virginia and the sales outside of the state and then determine the return at present prices on that portion of the plant which was devoted to West Virginia customers.

Q. What do you mean by amortization?

A. In our views and our method of handling what is ordinarily termed depreciation, we make a separation between that portion which is necessary to make good physical wear and tear and which we call deterioration and which we have allowed for in our figures at between three and a half and four per cent on the average——

[fol. 927] Q. Annually?

A. Annually. (Continued.)—and which we consider a proportion of the actual operating expense, inasmuch as it is simply an equalization of annual maintenance expenditures. In other words, in one year you will have very little maintenance and in another year you will have a good deal, and this allowance of three and one-half per cent or four per cent is to make an equalization of those expenses, and not to allow anything for the retirement of plant. In addition to that, we make an allowance which we call amortization in the case of physical plant and gas land values, and which we call depletion in the case of investment in wells, for the retirement of the investment over the life of the field, or, as we have figured it, as so much per thousand cubic feet based upon the estimated volume of recoverable gas.

Q. Do you handle that as depletion?

A. It is handled as depletion in the case of well structures—that is, wells and their equipment.

Q. How much do you figure you have allowed for depletion of the wells?

A. We have figured the existing wells as of December 31, 1923, and included them in the rate base at forty-five per cent of their [fol. 928] reproduction cost, they being depleted to the extent of fifty-five per cent of their original content. In other words, there is forty-five per cent of their original content remaining in them. And then we have depleted that remaining forty-five per cent at so much per thousand feet over the estimated remaining recoverable gas from the existing wells.

Q. You didn't deplete it then so much per year?

A. No, so much per thousand feet.

Q. Does that show in your report?

A. It shows in the detailed report. You see, you may draw a well down hard and practically exhaust it in a couple of years, or you may baby it and keep it going for ten. In other words, neither in our estimates of return on the basis of reproduction new nor in our estimates of return on the basis of depreciated value do we take the wells at anything in excess of that per cent of their reproduction cost that is represented by the remaining recoverable gas. In other words, in our estimate of return on reproduction new we only consider the wells at forty-five per cent of their reproduction cost, because they are fifty-five per cent exhausted. That was the case as of December 31, 1923. In other words, we look at the wells and the field exactly as you would look at a big coal pile or coal mine; its [fol. 929] value decreases as you take out the available product.

Q. Have you in your report a detailed statement showing the price paid by the United Fuel Gas Company for gas purchased by it from independent producers?

A. There is no detailed statement. There is a statement of the entire gas purchased in volume and of the entire price paid. That is not in a separate statement. That appears in the calculation of the cost of producing and purchasing gas. There is in the summary a statement of the gas purchased by years. It appears on page 8 of the summary, exhibit one.

Q. Do you know where the South Penn Oil Company operates?

A. No, I haven't in mind exactly where their territory lies excepting that in a general way it is contiguous to the territory of the United Fuel.

Q. Is it a Standard subsidiary?

A. I think it is, yes.

Q. Do you know whether they sell any gas to the United Fuel Gas Company?

A. I do not.

Q. The Cabin Creek Gas Company, is it a subsidiary of the United Fuel Gas Company?

A. I believe the United Fuel Gas Company owns all of the stock of the Cabin Creek Gas Company. That is the Cabin Creek Oil and [fol. 930] Gas Company, isn't it?

Judge Ritz: I don't know whether it is Oil and Gas Company or not, but the company you refer to the United Fuel owns.

Mr. Diederich:

Q. I believe you stated that you didn't know the exact parties that the United Fuel bought gas from.

A. I have not informed myself. I suppose I have it in my memoranda, the complete list of contracts; we usually take that off; but I haven't it with me and have not informed myself for this purpose.

Q. They buy from numerous persons and corporations?

A. Oh, yes, a large number of independent producers.

Q. Did you make a separate valuation of the leaseholds and acreage held by the Warfield or the United Fuel Gas Company in Kentucky?

A. I made a similar calculation to the one mentioned for the United Fuel for the leaseholds of the Warfield Company in Kentucky based on Mr. Davis's estimate of the recoverable gas in those leaseholds at five cents a thousand.

Q. You were not on the ground or——

A. No, I have not made any individual determination of the volume of gas recoverable. I have depended on Mr. Davis's report in that.

[fol. 931] Q. Do you know the character of contracts *the* the United Fuel Gas Company or the Warfield Gas Company makes with industrial consumers about the heat content?

A. I do not recall any limitation on that.

Q. You are not prepared to say whether——

A. I am not prepared to say whether they make any limitation on the heat content or not.

Q. Your experience as an appraiser and in making investigations of the values of these properties has been made largely in these gas cases for the companies, has it not?

A. Either for the companies themselves or for clients of ours who were prospective purchasers. Sometimes it was made for the company itself, sometimes it was made for a client who had in view the possible purchase of the company which I was looking over.

RALPH E. DAVIS

At the request of the appellants, the Court being of opinion that a better understanding of the testimony can be reached by incorporating the same in the exact words of the witness, orders that the testi-[fol. 932] mony of Ralph E. Davis be set out in full, as follows:

Direct examination.

By Judge Ritz:

Q. Where do you live, Mr. Davis?

A. Pittsburgh, Pennsylvania.

Q. What is your business or occupation?

A. I am a consulting engineer.

Q. Are you engaged in any particular branch of engineering?

A. The line of engineering work in which I have been engaged for a number of years involves the study of natural gas and oil properties and particularly the land and reserve value of those properties.

Q. Will you tell us, in a general way, what your experience has been, what occupations you have followed, since you left school, what school you attended, and if you are a graduate of a technical school?

A. I graduated in 1906 from the Engineering College of Wisconsin University, and went into mining work, first in the southwestern

Wisconsin lead and zinc fields, occupying various positions, begin-
[fol. 933] ning as a miner, and later, superintendent of the mine.

I then went to Butte, Montana, as geologist for the Pittsburgh & Montana Copper Company; about a year later I was made Chief Engineer of that Company. I remained in their employ for a little more than three years.

I then returned to the employ of the Vinegar Hill Zinc Company, for whom I had worked in Wisconsin, in the capacity of Consulting Engineer. I made examinations for them of mining properties in a number of states, particularly for the purpose of advising them in regard to a policy of expansion.

Q. As to whether they would purchase particular properties?

A. As to whether or not they might acquire particular properties. Also to advise them in regard to the probable available reserves of zinc ore then known, so that they might formulate an idea as to what the market for zinc ore was likely to be during the next few years.

That led me into work for them and for a number of other companies in a general consulting capacity.

I became director of the Wisconsin Mining School in 1911, and while in that capacity, I personally gave the instructions in applied geology.

I continued my practice of geological work, and, as geology be-
[fol. 934] came more and more recognized as of importance to oil companies, my work took me into most of the important oil fields of the country. I will say that I have personally examined properties, back in that period, either oil or gas, in Pennsylvania, Ohio, Kentucky, Oklahoma, Wyoming, Louisiana, Texas and in Mexico.

After the Federal Government adopted the tax law, generally known as the Law of 1918, it became necessary for the oil and natural gas companies of this country, and, for that matter, for the mining companies generally, to have an appraisal made of their producing properties, and, in conjunction with that, it became necessary to determine, insofar as it might be possible to determine, the reserves; oil reserves in the case of oil property, gas reserves in the case of gas property, copper ore in the case of copper mines; and——

Q. (Interrupting.) By that term "reserves" you mean the gas, oil, or whatever the case may be, which is controlled by the particular company under ground in connection with their production, is that it?

A. That is what I mean. My experience permitted me to engage in the work which then became important, and I might say that for the last four or five years I have been engaged largely in the de-
[fol. 935] termination of reserves, particularly for natural gas companies and for oil companies, and to some extent, for mining companies, and in the valuation of their properties, in order that they might comply with the requirements of the Federal tax laws.

Now, in addition to that, I have made a number of examinations for the purpose of advising (in some cases the owner) as to the reserves of his property. In some cases I have made examinations of property not owned by the employer—by my employer—of property that he considered the possibility of acquiring.

Q. Your purpose was to advise on the advisability of purchase?

A. As to the advisability of purchase. I would like to say in connection with this, that I have never at any time made any report that was for the purpose of starting a stock selling campaign.

Q. Just what natural gas companies in this section, any in West Virginia or Pennsylvania, have you examined for either purpose of information?

A. I have made studies of this kind for Hope Natural Gas Company, Reserve Gas Company, The People's Natural Gas Company, East Ohio Gas Company, Carnegie Natural Gas Company, Manufacturers' Light and Heat Company, Union Natural Gas Corporation, [fol. 936] American Natural Gas Company, Clarksburg Light and Heat Company, Iriquois Natural Gas Company of Buffalo, New York, the United Fuel Gas Company, of course, and the Columbia Gas and Electric Company, merely including gas companies.

Q. That is the greater part of the natural gas in the Appalachian Field, is it not?

A. These companies have more than half of the Appalachian Field.

Q. Now, Mr. Davis, to what extent have you examined the property of the United Fuel Gas Company and for what purpose and covering what length of time?

A. Three years ago I was retained by the United Fuel Gas Company to make a study of its producing property. The purpose of that study was that the value might be determined and depletion determined in accordance with the Federal tax laws and the regulations thereunder. Sometime thereafter I was asked by the management to extend that study so that it might embrace the entire property of the company.

I might add, gentlemen, that the Treasury regulations permit depletion of the producing property, the property from which reserves are being taken. That is the reason why the first study covered that portion of the property.

Q. By Treasury regulations you mean the Treasury of the United [fol. 937] States Government?

A. I do. This second study was made for the purpose of advising the management as to the other property which they held and which was only partially tested, and required a time period, I would say, roughly, of three quarters of a year. I was assisted in that work by a number of the members of my staff. I think an average would possibly be three men working for three quarters of a year.

We made use of all the data that was available, including the reports and maps of the United States Geological Survey, the reports and maps of the State of West Virginia, the maps of the United Fuel Gas Company, and all the information and files of the United Fuel Gas Company. I don't know as you want me to go further than that.

I want to ask you now, since you referred to tax laws in the first investigation: Take his official publication and read from the article (211) of Section 214, page 93, just what is required by the Department—By the Commissioner of Internal Revenue—in order

that a company may sustain a claim for depletion, in order that we may get it into the record.

A. I will read from Treasury Department, United States Internal [fol. 938] Revenue, Regulations 62 (1922 Edition) Relating to The Income Tax and War Profits and Excess Profits Tax under the Revenue Act of 1921, article 211. It points out the method which should be followed by a natural gas company in calculating depletion. It reads:

Art. 211. Computation of deduction for depletion of gas wells—on account of the peculair condition surrounding the production of natural gas it will be necessary to compute the depletion allowance for gas properties by methods suitable to the particular cases in question and acceptable to the Commissioner. Usually the depletion of natural gas properties should be computed on the basis of decline in closed or rock pressure, taking into account the effects of water encroachment and any other modifying factors. The gas producer will be expected to compute the depletion as accurately as possible and submit with his return a description of the method by which the computation was made. The following formula, in which the units of gas are pounds per square inch of closed pressure, is recommended: The quotient if the capital account recoverable through depletion allowances to the end of the taxable year divided by the sum of the pressures at the beginning of the year plus the sum of initial pressures of new wells and less the sum of [fol. 939] the pressures at the time of expected abandonment (which quotient is the unit cost) multiplied by the sum of the pressures at the beginning of the taxable year plus the sum of the initial pressures of new wells and less the sum of the pressures at the end of the tax year equals the depletion sustained for the taxable year. The depletion for the taxable year is subject, however, to the limitations contained in article 201 (h).

Q. So, in compliance with that regulation, you undertook to compile this data?

A. I undertook to compile this data not in compliance with this regulation particularly, but in compliance with the request of the Company that I prepare a study and report showing the present reserves of the United Fuel Gas Company, the value of those reserves, and the depletion properly allowable.

Q. These things were necessary under the regulations?

A. These things being necessary under the regulations. Of course, it was my duty to be informed of these regulations and to determine whether or not the peculiar circumstances of this property made it feasible to follow this particular method.

Q. In the meantime, Mr. Davis, you might explain just exactly what you did in investigating this property.

[fol. 940] A. Let me understand your question. We have just been talking about the work done in compliance with the Treasury Department Regulations. This particular work which these maps illustrate was done for the management—it had no particular connection with the tax report. You mean for me to describe the work done for the company in connection with this second report.

Q. Yes, sir, all the work which you did for us. Please explain the work which you did for the United Fuel Gas Company.

A. I will proceed to describe the work which was done for the management in the study of the entire property.

Q. All right.

A. I was asked to make a complete study of the territory held by the United Fuel Gas Company, and to make use of every method that I thought was useful.

The work began by gathering together all of the available information that was in published form, reports which I have already referred to, and systematically reviewing these reports, in order that I might be completely advised of these studies and in order that duplication of work might not be unnecessarily made.

[fol 941] I studied the gas fields of the Appalachian Field generally. First, to determine what relation I might find to exist between evident structural features of the country and the location of both oil and gas pools.

That study was made and from the records of the wells drilled by this company we were able to prepare some detailed structural maps of the area in which the company held acreage. These maps are the ones on this table.

Q. I will ask you, Mr. Davis, to introduce in evidence the maps to which you have just referred and mark them respectively numbers one, two, three, four and five.

A. I file them marked as requested.

Davis Exhibits Numbers One, Two, Three, Four, and Five.

(The maps referred to were filed, marked as above indicated, and are hereto appended.)

The Witness. Every well and every dry hole that had been drilled by the United Fuel Gas Company, and for that matter by any competitor so far as we had knowledge of the well, was plotted on these maps, excepting only the oil wells which are, for convenience, grouped into units, and, by proper symbols, the oil producing areas were denoted.

As a result of the gathering of the information, the plotting of all [fol 942] the producing wells and all the dry holes, the mapping of the structure, both as revealed at the surface and as revealed from the formations punctured by drilling, the area in question was divided into four classes. Proven, either for oil or gas; Probable, either in some cases for oil and in others for gas; and, into acreage which appeared to have some value as prospective territory; and, into acreage which appeared to be unfavorable.

The map which I now produce and file as part of my testimony, marked United Fuel Gas Company outline map, exhibit number six, is a map on a reduced scale showing the whole territory by these major classifications, and the scale is two miles to the inch.

Davis Exhibit Six.

(The map referred to was filed, marked as above indicated, and is hereto appended.)

The object of this map is to present in summary form a picture of the entire area. In order that you may have in mind the territory covered by this map, will point out that the West Virginia-Kentucky border is shown here (indicating on map), the city of Charleston here (indicating on map), the city of Spencer here (indicating) and the town of Clendenin here (indicating).

I stated a moment ago and I repeat that this map shows two princi- [fol. 943] pal features of the territory as determined from the studies we have made. The areas enclosed in this red or pink border (indicating) are the areas that have been classed as proven territory. You will note that there are several areas of that kind. The areas enclosed in blue border (indicating) are those which have been classed as probable territory. The territory held outside of these two acres (these two classes) are either possible or unfavorable, and for the purpose of my study are not shown on this summary sheet.

Judge Ritz:

Q. What is the acreage as indicated by the pink and blue respectively?

A. I might call to your attention that wherever on the map acreage has been classified as either proven or probable there appears a numeral in each square and that numeral indicates the number of square miles of territory controlled by the United Fuel Gas Company within that square.

Referring to map number two heretofore introduced in evidence, I will say this is one of five sheets introduced as numbers one, two, three, four and five, which cover the same general territory that is indicated on map number six, the scale on these maps being double [fol. 944] that of the scale on map number six, and is prepared on this enlarged scale in order that each gas well and each dry hole might be shown in convenient form.

This, I might say (indicating), is the more northerly part of the gas territory, the town of Spencer is located out here (indicating), Clendenin in here (indicating), but not shown on this map. By reference to the small scale key map you can determine the location of any point shown on these large scale maps.

Every gas well is shown by a circle colored red, and, if that gas well be owned by the United Fuel Gas Company, it has a numeral opposite it and without a letter, that particular well (indicating) being No. 604, United Fuel Gas Company. If a particular well be one owned by a foreign company, it is in like manner indicated by a circle enclosed in red, indicated by a numeral, but with the designating letter "F," indicating that it is a foreign well.

Judge Ritz:

Q. What you mean is owned by some one other than the Company?

A. Yes, sir.

Our purpose has been to provide all the information possible in our study of this territory.

The oil wells have not been shown individually except in rare cases [fol. 945] but are indicated for each group of oil wells by a cross of this kind (indicating on map), the size of the cross indicating the number of wells. I might say this, we have indicated by the size of the arm of the cross the number of oil wells in areas from which oil is being produced, the proven oil territory, the areas shown in reddish color are the proven gas pools, that is, areas from which gas is being taken; and the areas shown in blue are those belonging to the probable territory.

The gas reserves of the Company have been estimated by me by two methods. One of the methods is applied to territory classed as proven and I will deal first with that division.

We have available the past production of the United Fuel Gas Company, that is the total gas sold in any year less total gas purchased in the same year. In other words, I dealt with the net amount of gas produced by the Company and actually delivered to the consumers. I make no claim for additional gas because there may have been line loss or for the removal of gas in any way, excepting where gas might possibly, over a period, have been used in carbon black manufacture. That, however, is very small.

Knowing the total production of gas in a given year, we have found [fol. 946] what portion of that gas was produced in that year by each of the gas wells. That calculation is simply one of arithmetic. The data used are the volume of the well itself, that is, the volume in the well, the minute pressure obtained when the well is closed in and the number of days in the year the well is used.

Q. Of all these things the Company has a record?

A. Of all these things the Company has a record, that record going back to 1912, and my studies in which the gas has been allocated to individual wells, going back and including the year 1913.

The Company has also a record (complete in most years) of the rock pressure of each well, not absolutely complete, but essentially complete.

With that information in hand, I was able to determine what the production has been in each year for the several gas pools, or, for that matter of each of the United Fuel Gas Company's portion of each pool. Merely by grouping a number of wells, we know what their production is in any given year; and by averaging the rock pressure of the same group of wells each year, we know what the average rock pressure of the group of wells is in each year.

I have found it necessary to study the wells in this territory by [fol. 947] groups, that is the grouping the wells and for this reason; were we to take the Spencer Pool beginning say in 1910 when the first wells were drilled—six wells were drilled in this portion of the pool (indicating) we find they have an apparently small production, and judging by these wells alone there is a fairly large drop in rock pressure. I will say that the initial rock pressure there was about 1,000 pounds and we find in a short time there was a loss of 100 pounds rock pressure and gas production had been so much (indicating on graph representing production of these wells). If we had based our calculations on that particular data only we would have

failed to take into account the reserves of this United Fuel Gas Company territory (indicating territory in Spencer Pool on map).

If as new wells were drilled we took into account their production and their rock pressure, and as old wells were abandoned eliminated from our average their rock pressure, we have been going down through the years with a true picture of production but a distorted picture of the actual average rock pressure of the pool. The new wells in newer territory would have been added to our total and therefore would affect the average only after such wells were drilled, and the elimination of old wells abandoned after reaching the low [fol. 948] rock pressure would have indicated a higher average remaining rock pressure than the true situation demands.

In order to eliminate this difficulty the territory has been divided into areas, each area having usually been drilled in a period extending over from one to three years. The average rock pressure of the wells in such limited portion of a pool is correctly reflected by averaging the pressures shown for each well in the area—the average is not affected by bringing into the average the pressure of a new well drilled in a distant portion of the pool. New wells may be drilled in such an area during the later years of its production. We find that such wells have a rock pressure similar to that of the other wells in the same area, hence they do not distort the rock pressure average used in estimating reserves.

At this point I would like to illustrate the use of production and average annual rock pressure of a particular group of wells by referring to this graph marked Area C in my report which shows graphically the production and decline in rock pressure of a group of ten wells located in the Clendenin Pool (indicating). The circles along this line marked "pressure decline" show the average rock pressure in each year from 1913 to 1924. During the same period of time (1913-1924) these wells have produced approximately 4 billion [fol. 949] feet of gas indicated over here (indicating). Horizontal distances indicate production, vertical distances indicate decline in rock pressure. The graph shows a consistent decline in rock pressure as gas has been removed from the area in which these wells are located.

For these wells I have projected that line (indicating) in order that I might form an estimate of the reserve of that group of wells. The graph shows that Boyle's Law may be applied to the study of gas reserve in this territory. The gas reserve of proven territory is therefore based on the proposition that the same production will be obtained in the future for each loss of one pound rock pressure that has been obtained for a number of years in the past.

This graph is similar to all other graphs prepared for each of the various areas of this proven territory. And I want to say that the reserves determined in the manner described (by subdividing the territory) is actually less than would be obtained were we to treat the territory as a whole. The method does not result in an increased estimate of reserve, on the other hand it indicates a smaller and in my judgment a much more accurate estimate.

I have covered an explanation of the method used in estimating

[fol. 950] the gas reserves of the proven territory. I believe I should give you the figures. Do you wish me to do so?

Q. Yes, sir.

A. The total estimated reserves, as of December 31, 1923, is 249.1 billion cubic feet.

Q. Now, will you please describe the probable acreage?

A. I called your attention to the fact that the acreage classed as probable lies very close to the acreage that has been classed as proven. To a considerable extent this acreage classed as probable has actually been tested. You will note in that area—I will say there are more than twenty-five producing wells in that acreage, and so in other parts of the territory that is classed as probable. I bring this point to your attention in order that you may not conceive the idea that the probable gas reserve is merely a possibility. It is in one sense at least partially proven.

I have designated here this acreage as probable and the reserve as probable because I have not been able to measure that reserve by the same clean-cut method applied to the proven acreage.

[fol. 951] In estimating the reserves of this probable territory I have first found what the production of gas—what the total reserve gas—has been per acre in the nearby adjoining proven and developed acreage.

In estimating the reserve of the area classed as probable, I have found what the reserve is of nearby proven acreage. For example, referring to sheet Number two, on which there is shown a greater portion of the Clendenin Pool, the reserve of that pool, or the total production of that pool has been determined as approximately 7.1 million feet per square mile for each pound of rock pressure.

Referring again to sheet number three, the one I now have. Next, let us say, there is one square mile in territory classed as probable. I find that that territory should be ranked as having, let us say, a gas reserve which will produce 7.1 million feet per pound per square mile. I determined what that gas reserve would be on that basis, and then have modified that estimate, never increasing it but generally decreasing it, to take into account the possibility that some acreage may not prove productive or that some gas will be withdrawn by com-

[fol. 952] petitors.

The average discount applied to the entire probable acreage has been 38%.

Q. What do you find to be, under that method, the gas reserves now of the probable acreage?

A. 414.6 billion cubic feet.

Q. Making a total of what?

A. Making a total of 663.7.

Q. Do you mean by your last answer 663.7 billion cubic feet?

A. Yes, sir.

Q. You are familiar with the testimony of Mr. Uebelacker in this case in which he refers to a report made by Mr. Davis. Are you the Mr. Davis to whom he referred?

A. Yes, sir.

Q. Is this estimate which you have just given of the total gas

reserves, proven and probable acreage, inclusive of the gas consumed in the gasoline extraction process?

A. The gas reserve as set forth in my report is the net gas reserve that should reach the natural gas consumer.

Q. Why is that?

A. The United Fuel Gas Company has, since 1915, recovered gaso-
[fol. 953] line. The gas produced, carried to the consumer and sold, has, during that period, been to a large extent stripped gas—gas without the gasoline content. The reserves are estimated on the basis of the past production and the decline in rock pressure. Inasmuch as this past production has for this past six or seven years—seven or eight years—been stripped gas, the reserves as determined are, therefore what will be stripped gas.

Q. You assume, of course, that the quantity recoverable may be affected to some extent in the future by what others may do in adjoining territory, do you not?

A. I do.

Q. What method have you adopted in allowing for that?

A. In our study of the past, we find that the United Fuel Gas Company has taken the quantity of gas stated from this territory and that the rock pressure has been reduced as shown in our report. During the same period, other operators have removed various quantities of gas. Having thus removed that gas and the rock pressure of the area having been reduced to some extent, we assume that the same ratio of production from a given pool will be maintained in the future which has been maintained in recent years.

Q. The ratio between this past production and present produc-
[fol. 954] tion?

A. Yes, sir.

Q. Do you know of any circumstances which would justify you in assuming that the percentage of gas produced in the future would be greater than in the past?

A. I know of no circumstance in connection with that.

Q. Go ahead if there is anything else you want to explain on that sheet.

A. I have nothing else.

Q. What are the number of gas wells owned by the company in this property?

A. The total number of gas wells as of December 31, 1923, including those of the Warfield Natural Gas Company and Cabin Creek Gas Company, is 796.7 wells.

Q. You have regarded the property of the Cabin Creek Gas Company and the Warfield Natural Gas Company as identical with the property of the United Fuel Gas Company?

A. I have so considered that property.

Q. The report of Mr. Uebelacker showed a slightly different number of wells. What particular wells did his report include?

A. As I understand that point, Mr. Uebelacker shows——
[fol. 955] Q. (Interrupting.) He does not show several of the Cabin Creek Gas Company Wells?

A. I believe that is it; however, I believe that his total and my total are the same.

Q. Now, as to the number of acres in your estimate determined as proven: Have you that divided into various pools?

A. I have.

Q. State that, please, by pools.

A. In the Clendenin Pool I consider 97,856 acres controlled by the United Fuel Gas Company to be proven acreage; in the Spencer Pool, 19,520 acres; in the Triple State Pool, in West Virginia, 3,257.6 acres; in the Kanawha Pool, 3,136 acres; in the Triple State Pool in Kentucky, 11,334.4 acres.

Q. Is that all?

A. In addition to that, the Cabin Creek Gas Company, in the Kanawha Pool, has 1,280 acres which I consider proven; and, that is all, making a total of 136,384 acres.

Q. What acreage have you included as probable in the several pools?

A. In the Clendenin Pool—the figures I am giving you are the acreage controlled by the Company, you understand.

In the Clendenin Pool, 38,912 acres; in the Spencer Pool, 8,640 [fol. 956] acres; in the Kanawha Pool, 29,888 acres; in the Triple State Pool, West Virginia, 236.8 acres; in the Triple State Pool, Kentucky, 7,571.2 acres. In various areas——

Q. (Interrupting.) Did you give the total?

A. I am not ready as yet to give the total. In various areas not designated as belonging in any of these four pools, but located on these maps as indicated, 39,424 acres. The Cabin Creek Gas Company, in addition to that, in the Kanawha Pool, has 1,536 acres, making a total of 126,208 acres.

Q. Now, what number of acres is owned by the company in addition to those embraced in the two classes which you have mentioned as proven and probable?

A. The Company owns in addition to the acreage just referred to, 552,318.68 acres.

Q. Then, what is the total acreage of all classes?

A. 814,910.68 acres.

Q. Mr. Davis, what can you say as to the method adopted by you for ascertaining and determining the gas reserves of the United Fuel Gas Company, being an approved method and one in general use at this time in the gas fields of the country?

A. Well, I can say that during the last two years in particular I [fol. 957] have personally made studies for most of the gas companies that I named earlier today by methods similar to those which have been reviewed here; that these studies and the results of these studies have been made before the Engineering Division of the United States Internal Revenue Department at Washington, where they have been reviewed; and I will say that in general that method has been recognized by these engineers as essentially sound.

Q. Is it accepted by the Department as a basis for calculating taxes or a basis for calculating the values upon which the taxes are assessed?

A. Yes, sir.

Q. Has your calculation of these reserves been accepted by the Commissioner of Internal Revenue in connection with the calculation of the income profit taxes of that Company—of the United Fuel Gas Company—and, if not, to what extent, if any, has it been accepted?

A. The Engineering Division of the office of the Commissioner of Internal Revenue has reviewed the reports which have been laid before it, prepared by me, and for the United Fuel Gas Company, reports in which the reserves have been determined for producing acreage (that is the only acreage the Commissioner of Internal Rev- [fol. 958] enue allows depreciation—depletion—on).

Mr. Diederich: The defendant objects because the testimony is hearsay and should be given by the engineers of the Revenue Department.

A. They have been accepted to some extent. I will say that the reserves as determined for certain parts of the field have been accepted and the reserves as determined for certain other parts of the field have been reduced 10%.

They do not recognize this probable class and we have applied none; it is merely a question of depletion.

Judge Ritz:

Q. That only answers the question partly, Mr. Davis. I asked you also to what extent this method which you have used has been accepted as a basis for business transactions in the purchase and sale of natural gas property?

A. So far as my own experience is concerned, I have made examinations of important gas territory, a part of which was proven and a part of which was not proven, and I reached a conclusion regarding the probable future productivity of that area by methods similar to those which I have described here, both for proven and probable. That work was done for large gas interests and they were guided to a material extent by that study.

Q. The method is of comparatively recent origin, is it not, and a [fol. 959] generally used method?

A. It is a generally used method of comparatively recent origin.

Q. The method itself is based on what is generally known as Boyle's Law?

A. Yes, sir.

Q. What is Boyle's Law, Mr. Davis?

A. Boyle's law states that the volume of gas varies inversely with the pressure.

Q. That has been accepted as standard in the measurement of gas of any kind for centuries, has it not?

A. That has been accepted and recognized among scientific men as correct since the days of its discovery by Robert Boyle, which is possibly more than two hundred years ago.

Q. Meaning by it that the pressure, the measure of pressure, of the gas substance determines its volume?

A. I believe that as stated it is very clear.

Q. As you have stated?

A. Yes, sir.

Q. Just how do you apply Boyle's Law in getting your results?

A. The application is this: The volume in a gas sand occupied by [fol. 960] gas does not vary, at least in this field it does not vary, during the period of removal of that gas; that is to say, the open space in the sand in which the gas is found, remains equal in extent during the period of gas removal—we are dealing here with sand in which there is known to be practically no encroachment by surrounding water—whatever amount of gas may have been originally in one of these pools, we judge that when the pressure has been reduced to say one-half of the original pressure, then one-half of the original gas content remains.

Q. Is that fact commonly accepted in the gas business today and business transactions based upon it?

A. I have found that practical gas men throughout the gas fields judge gas territory in part by the remaining rock pressure as compared to the early rock pressure.

Q. Do they give that much or little weight?

A. They give that fact and the facts of the past productive history of the pool very great weight. The two are and must be taken together.

Q. You have considered both?

A. I have, of course, considered both.

Q. Is that method employed to a greater extent now than formerly?

A. I find that the method is becoming recognized among gas men [fol. 961] as very useful to them in not only observing the rate of depletion of their own fields but in considering the advisability of acquiring additional fields.

Q. Mr. Davis, there is a large acreage owned by this Company, which according to your statement, is neither in the proven or probable class. To such of that entire acreage owned by this Company as is not — the proven or probable class, you have assigned no gas reserve as part of this six hundred and sixty some billion, have you?

A. No gas reserve has been estimated for that territory.

Q. An estimate of that you would regard as highly speculative?

A. Highly so.

Q. Highly speculative?

A. It would have some probabilities, however, some parts, I think there is no question but what parts of that territory will be productive.

Q. Why is that?

A. By reason of the geological showing, by reason of the fact that it lies within this general gas belt, and, by reason of the fact that since I have made the classification of the territory, and my maps based thereon, we find that there have been a few productive wells drilled in territory that we considered neither proven nor probable. [fol 962] Q. Mr. Davis, have you made a comprehensive report giving in detail all of the data and making full explanation of the methods used by you in arriving at the conclusions to which you have testified?

A. I have.

Q. I show you a book marked United Fuel Gas Company, report showing general geological description of natural gas properties, classification of acreage and estimated gas reserve as of December 31, 1923, and ask you to state if that is the report made by you to the United Fuel Gas Company.

A. It is.

Q. Does that report correctly reflect the information upon which you based your conclusions and contain the explanations of the methods pursued by you in reaching them?

A. It does.

Judge Ritz. We now offer in evidence the report referred to by the witness, marked on the outside cover thereof as above indicated.

United Fuel Gas Company—Report showing general geological description of natural gas properties, classification of acreage and estimated gas reserve, as of December 31, 1923.

(The document referred to was filed, marked as above indicated, and hereto appended.)

Q. Mr. Davis, in testifying in regard to the acreage which you [fol. 963] have classified as probable, you have given certain reasons for reaching the conclusions that certain quantities of gas were contained therein. Do you know whether or not since you made that survey and report there has been any development upon any of this property which would have a tendency to verify or disprove the conclusions reached by you?

A. I don't know except in a general way what development has gone on since then.

Q. Does your report indicate the quantity of gas estimated by you to be contained in the proven and probable territory of the Warfield Natural Gas Company?

A. My report shows the estimated quantity of proven gas and the estimated quantity of probable gas for the Triple State Field as a whole. That portion of the Triple State Field located in Kentucky is owned by the Warfield Natural Gas Company. I have determined the approximate portion of both the proven and probable reserves assignable to the Warfield Natural Gas Company, the same being six billion cubic feet of proven reserves and twelve billion cubic feet of probable reserves, both estimates as of December 31, 1923.

[fol. 964] This division is not detailed in the report, and has been made since said report was completed.

Cross-examination.

By Mr. Diederich:

Q. How far is it from Cedarville to Pittsburgh?

A. I would say it is roughly 150 miles.

Q. What is the cost of transporting gas from Cedarville to Pittsburgh?

A. You want the cost figured to include amortization of investment or to be merely an operating cost?

Q. The actual cost.

A. Well, the actual cost must include, then, amortization of the investment.

Q. Yes, sir.

A. The answer to that question will be determined by the quantity of gas which is to be delivered annually and the total quantity which eventually will be transported by the line. In other words, if you are forced to amortize your line during a period of say ten years rather than a period of fifteen years, your amortization charge will be fifty per cent greater.

Q. I am talking about the cost of transportation.

A. Well, the cost of transportation, I must say, might vary from possibly five cents a thousand to eight cents a thousand, depending upon whether or not the total quantity of gas eventually to be trans- [fol. 965] ported is a low or high figure.

Q. I believe you testified before the Public Service Commission of West Virginia last summer that the cost of transporting gas from Cedarville to Pittsburgh is .052c per thousand feet?

A. That answer was found after considering what total quantity of gas would probably be carried.

Q. Have you figured out, Mr. Davis, the cost of transporting gas in large quantities per mile?

A. I would have to say that the cost of transporting gas per mile would not be a uniform figure.

Q. It would depend upon the character of — country that you had to go through, would it not, somewhat?

A. It would depend upon the character of the country to some extent, but to a greater extent upon the size of the lines laid and the total quantity of gas transported, as well as upon the distance transported.

Q. I believe you stated that in part of this territory that you have been describing here in your testimony of the United Fuel Gas Company oil was produced?

A. Yes, sir.

Q. Do you know whether or not the fact that oil is produced has any bearing on the cost of producing gas?

A. Very little effect, if any, for the reason that the oil pools are to a large extent separate from the gas pools. Most of the gas [fol. 966] possibly ninety per cent of it, is produced from territory that does not produce oil.

Q. It is produced from territory contiguous to oil territory, is it not?

A. Yes, sir.

Q. Isn't it a fact that the oil is on the lower sections of the strata and the gas is on the higher sections of the oil or gas bearing sands?

A. That is to a certain extent true. To a large extent the oil

lies in the same sand and down the structure, and not in the same sand and directly beneath the gas.

Q. Generally, having a certain structure, or a structure like we have in West Virginia—a typical oil and gas structure—isn't it a fact that the oil is on a lower part of the structure than the gas and the gas on the higher part of the structure?

A. That is generally, almost universally true.

Q. Isn't it also a fact that at a point on the structure below the oil we generally find water in the sand?

A. Yes, sir. You asked me if that was generally true?

Q. Yes, generally true.

A. It is generally true, but we have notable exceptions, particularly in West Virginia.

Q. Generally, in a typical oil and gas structure, we have water on the lower part of the structure, then the oil rests upon the water, and the gas rests upon the oil?

[fol 967] A. That is true.

Q. How much of the territory in Kentucky have you classed as proven territory?

A. In Kentucky I have considered 11,334.4 acres as proven.

Q. How much have you considered as probable in Kentucky?

A. 7,571.2 acres.

Q. And how much have you considered as neither proven nor probable?

A. All of the remaining acreage controlled by the Warfield Company, which would approximate 90,000 acres.

Q. Did you value the holdings in Kentucky separately from the holdings in West Virginia?

A. No, sir.

Q. Did you value them as highly in Kentucky as you did in West Virginia?

A. You will pardon me if I call your attention to the fact that my report deals with gas reserves.

Q. All right. I accept that. Did you fix the gas reserves in the proven territory of Kentucky as great as those in West Virginia in the proven territory?

A. In determining the proven gas reserves in the Triple-State Field, I dealt with information available from that field only and for that field as a whole. Now it happens that about two-thirds, roughly, of that field lies in Kentucky, the other third in West Virginia; and I [fol. 968] made no distinction in this study between the acreage in Kentucky and that in West Virginia, dealing with the Triple-State Field only.

Q. The basis of your calculations is shown fully in your report?

A. Yes, sir.

Q. Do your maps show all the dry holes that have been drilled in these different properties?

A. So far as we have been able to obtain information all gas wells and all dry holes are shown. We did not show all of the oil wells because they would be so close together on the map as to make that impracticable.

Q. Who operates the oil wells?

A. What wells?

Q. On the property of the United Fuel Gas Company.

A. The United Fuel Gas Company formerly operated quite a number of oil wells; I don't recall the number now, but possibly three hundred; and some time, I believe, in 1922 the oil wells and the right to produce oil from those wells were sold or transferred to the Virginian Gasoline and Oil Company.

Q. That is a subsidiary of the United Fuel Gas Company?

A. Yes, sir, they are a subsidiary of the United Fuel Gas Company, or of the interests which own the United Fuel Gas Company.

Q. Or of the Columbia Gas and Electric Company?

{fol. 969} A. Columbia Gas & Electric Company and Ohio Fuel Supply Company.

Q. I believe you are a geologist, are you not?

A. Yes, I believe so.

Q. There is only one method to find out whether a certain territory will produce gas, and that is by drilling it, is that a fact?

A. There is only one best method.

Q. That is what I am getting after.

A. There is only one best method.

Q. And that is by the drill?

A. Yes, sir.

Q. Isn't it a fact that in a comparatively small area of land, say a hundred acres, you may have a producing gas well, producing gas in paying quantities, and that same territory—that same area—may have a dry hole?

A. Yes, sir.

Q. How many different fields have the United Fuel Gas Company?

A. Four principal fields.

Q. How many different areas of acreage do they own, isolated one from the other?

A. I would say their territory in general is hardly to be classed as divisible into isolated sections. They do own a considerable territory within and surrounding the Spencer pool, and then there {fol. 970} is a strip of territory between that pool and the Clendenin pool which has been pretty well demonstrated to be barren of either oil or gas throughout its greater extent, and the United Fuel Company does not hold any material amount of acreage in that strip. Then you come to the Clendenin territory, in which they have extensive holdings, blocked up acreage extending to both the east and west borders of the pool and beyond the borders of the known pool and extending southward without any serious interruption until the Kanawha field is entered, extending southwestward from that Kanawha field for quite a number of miles, and then with some interruption, and extensive holdings again in and around the Triple-State pool and on over into Kentucky.

Q. They have, I believe, as shown on the maps filed in this case, seven areas of acreage which are separated or not connected together?

A. If I understand the map correctly which I believe you refer to, that map was prepared by an engineer representing the cities.

Q. I beg to differ with you.
A. Am I incorrect in that, gentlemen?
Q. Mr. Uebelacker's map was the one I was going by.

(Witness refers to map.)

A. Well, in the first place, I don't know that the area dotted in on this map—I know nothing about this map—but I don't know that the area which is dotted here represents territory controlled by [fol 971] that company or if it represents gas fields in which the company has territory and outside of which the company may have territory.

Q. Does your map show the relative position of each of these fields?

A. My map shows the relative position of each producing gas field, yes, sir, and it also shows the distribution of territory within and outside of the proven fields.

Q. The Wayne field is separated from the rest of the fields, is it not?

A. I would rather refer to my own map, with which I am familiar.

Q. That is all right.

A. This map in my report shows the several producing fields.

Mr. Willis. I would suggest that you indicate which one of them it is, Mr. Davis, so it will be in the record.

The Witness. First map shown in section 4. That shows the producing pools or fields.

Mr. Diederich.

Q. That shows ten different producing fields?

A. Yes, sir. I will call your attention to a notation on this map which states, "Pools shown include those of United Fuel Gas Company and other operators."

Q. Then these fields are not all owned by the United Fuel?

A. No, sir.

[fol 972] Q. Well, can you tell us now which one of these pools is owned by the United Fuel Company and which is owned by other operators?

A. I can. The United Fuel Gas Company owns a very considerable acreage in the Spencer pool.

Q. Do other operators own acreage in the Spencer pool?

A. They do.

Q. Contiguous to the United Fuel Gas Company's property?

A. Yes, sir.

Q. All right. What about th Clendenin pool?

A. The United Fuel Gas Company holds very extensive acreage in the Clendenin pool, approximating, I would say, about ninety per cent. of that pool.

Q. But other operators own territory contiguous to them in the gas producing part of that pool?

A. Yes, sir.

Q. What about the Kanawha pool?

A. In the Kanawha pool the United Fuel Gas Company practically control all of the outer portions of the pool. There are two principal properties in the center of that pool, one owned by the Owens Bottle Company and one owned by the Kanawha Valley Products Company, these last named companies having no relation to the United Fuel Gas Company.

Q. But the property is contiguous to the United Fuel Gas Company's property?

A. Yes, sir.

[fol. 973] Q. Now, what about the Cabin Creek pool?

A. The Cabin Creek pool, as shown on the map, is principally an oil pool. Most of the oil producing acreage in that pool, or at least a large part of it, is owned by the Pure Oil Company. The Virginian Gasoline & Oil Company owns important oil producing acreage in the northeast end of that pool, and certain gas producing acreage on the northwest side of the pool is owned by the United Fuel Gas Company.

Q. But the property of the United Fuel Gas Company is contiguous to other operators in the same pool?

A. Yes, sir.

Q. What about the Injun sand pool shown on the map southwest of the Clendenin pool?

A. Most of the producing acreage in that pool is owned by other interests.

Q. Which operate contiguous to the United Fuel Gas Company?

A. Let's not put it that way. Is owned by other interests, and for this reason no gas territory controlled by the United Fuel in this pool has been classed as proven.

Q. Now, what about the Berea pool?

A. Practically all of the territory which produces gas in the Berea pool is owned by foreign interests—is owned by other interests, the Columbia Gas and Electric Company being probably the principal operator in said pool. The same answer will apply to the Branchland gas pool and to a smaller gas field now partially developed situ-

[fol. 974] uated west of the Branchland pool.

Q. And known as the Wayne pool?

A. Yes, sir. This is the Triple-State pool.

Q. And is the same thing true of the Triple-State pool?

A. No, sir.

Q. Who holds that territory?

A. The Triple-State pool is largely controlled by the United Fuel Gas Company.

Q. There are other operators within that pool, are there not?

A. Yes, sir.

Q. Who operate property contiguous to the United Fuel Gas Company?

A. Yes, sir.

Q. And you have shown on this map marked number six clearly the property in each square owned by the United Fuel Gas Company, being four square miles to each square, and the amount

owned by the United Fuel Gas Company in each one of these squares is indicated by figures?

A. Yes, sir.

Judge Ritz:

Q. Those figures indicating the number of square miles?

A. Yes, sir.

[fol. 975] W. J. HIGHTOWER, introduced on behalf of the plaintiffs, testified in substance and effect as follows:

That he had heretofore testified in this case before the Railroad Commission of Kentucky and had filed certain statements on that occasion (his evidence appears at page 114 et seq. of the printed volume marked Exhibit E with the bill); that at that time he filed a statement, marked Exhibit No. 2, found at page 320 of said Exhibit E, of the gas capital account of plaintiffs as of June 30, 1923; that he has since brought that statement down to October 31, 1924, and files the extended statement herewith as Exhibit Hightower 2-A, the same being hereto appended and so marked.

That he also on the former occasion filed a statement which is found at page 321 of the printed volume marked Exhibit E showing the increase in capital expenditures of the United Fuel Gas Company from July 31, 1921, to June 30, 1923, and that he has now made up a statement showing the increase in capital expenditures from June 30, 1923, to October 31, 1924, and files the same herewith as Exhibit Hightower No. 3-A, the said statement being hereto appended and marked as indicated.

That he also on the said former occasion filed an exhibit marked [fol. 976] No. 4 found at page 322 of the printed record, Exhibit E, being a statement of gas sales and expenses of the United Fuel Gas Company for the year ending June 30, 1923; that he has since made a statement of such sales and expenses for the year ending October 31, 1924, and files the same marked Hightower Exhibit 4-A, which statement is hereto attached and marked as above indicated.

That on the said former occasion he filed with his testimony a statement marked Exhibit Hightower No. 5, found at page 323 of the printed volume, Exhibit E with the bill, showing compressor station investment and operating expenses for the years 1914-1922, inclusive; that he has since extended this statement so as to show the compressor station investment for the year ended December 31, 1923, and for the year ended October 31, 1924, as well as the operating expenses for those two years and files the same herewith as Hightower Exhibit No. 5-A, which statement is filed, marked as above indicated.

That on said former occasion he also filed a statement as Hightower Exhibit No. 6, found at page 323 of the printed record, Exhibit E with the bill, showing total gas consumption for the years ending December 31, 1921, and 1922, and for the year ending June [fol. 977] 30, 1923, in the cities of Ashland, Catlettsburg, Louisa

and Russell; that he has now made up a statement showing these facts for the year ended December 31, 1923, and for the year ended October 31, 1924, and files the same herewith marked Hightower Exhibit No. 6-A, which statement is appended and so marked.

That on said former occasion he filed with his testimony a statement marked Hightower Exhibit No. 8 showing the distribution of investment as of June 30, 1923, in the Kentucky cities involved in this suit, which statement appears at page 324 of the printed Exhibit E with the bill; that he has brought such statement down showing such distribution as of the 31st day of October, 1924, and filed a statement thereof as part of his testimony marked Hightower Exhibit No. 8-A, which statement is attached hereto and marked as above indicated.

That on said former occasion he filed a statement marked Exhibit No. 9 showing the total production of gas in the Kentucky field for the years 1921 and 1922 and for the seven months of the year 1923, which statement appears at page 325 of the printed Exhibit E with the bill; that he has made a similar statement covering the whole of the year 1923 and the first ten months of the year 1924, and files [fol. 978] the same marked Hightower Exhibit No. 9-A, which is attached hereto and marked as indicated.

That he has also made up a statement from the records of the Virginian Gasoline & Oil Company showing the earnings of said company from the manufacture and sale of gasoline for the last four months, and files the same marked Exhibit Hightower No. 11, which is attached hereto and is so marked.

That he is the custodian of the books of the Virginian Gasoline & Oil Company, as well as of the books of the United Fuel Gas Company.

Cross-examination.

That there is carried on Exhibit 2-A acreage at $38,404,706.83; that this is not the cost of said acreage, but is the book value thereof, plus an appraised value; that it is not the same appraised value fixed by Mr. Uebelacker; that the actual cost of the acreage is not shown on these statements; that the records of the company do show this; that no figure in any of the exhibits filed by him includes the Cabin Creek Gas Company, which is a subsidiary of the United Fuel Company; that the items contained in Exhibit No. 2-A are the investment to the date indicated, including all replacements to that date, and [fol. 979] excluding all retirements; that the original exhibit Hightower No. 2 showed incomplete construction as $502,002.15; that the Exhibit 2-A just filed showed incomplete construction of $1,320,897.04; that this incomplete construction is made up of large lines and compressor stations to a great extent that have not been completed; that there is one compressor station now in course of construction and a number that are having additions made to them; that the one in course of construction is in Roane county about twelve miles from Clendenin.

That the Exhibit 5-A includes, under the head of compressor sta-

tion investment, a part of the incomplete construction shown on Exhibit 2-A.

That the number of consumers in the Kentucky cities has increased since the making up of Exhibit No. 7 filed as part of witness's testimony with Exhibit E, and that such number of consumers in said cities was at the time of his testimony as follows: City of Ashland, 5,317; City of Catlettsburg, 1,305; City of Louisa, 577; City of Russell, 439.

That the statement filed by him, Exhibit 4-A, shows gas sales for the year ending October 31, 1924, at wholesale, of 29,076,835 thou- [fol. 980] sand cubic feet, and an amount received therefor of $84,178,618.81, which includes gas sold to the Columbia Gas & Electric Company and Ohio Fuel Supply Company at 7 cents a thousand cubic feet; that there are no other wholesale customers having a preferential rate; that the amount of gas sold to the Columbia Gas & Electric Company and the Ohio Fuel Supply Company during the period covered by said Exhibit 4-A was, to the former of said companies, 5,867,416 thousand cubic feet, and to the latter 9,869,330 thousand cubic feet.

Ira G. Sayre, introduced on behalf of the plaintiffs, testified in substance and effect as follows:

That he lives in Charleston, West Virginia; is engaged in the oil and gas business and has been so engaged for about fourteen years; that he has produced and sold natural gas for the same length of time in the field on Lens Creek, which is near Cabin Creek and is part of the Cabin Creek district in what is known as the Kanawha road; that this territory is contiguous to that operated by the United Fuel Gas Company and the Cabin Creek Gas Company; that he has under lease 12,000 acres of land, and that he sells the gas which he [fol. 981] produces therefrom to the Marmet Gas Company, Montgomery Gas Company, and the major portion thereof to Owens Bottle Company.

That he has been selling said gas to the Owens Bottle Company for over four years; that he delivers the same to them at the well and that he has the right to extract the gasoline therefrom before delivering the same; that he receives from said company at the mouth of the well, under the conditions above stated, for said gas 10 cents per thousand cubic feet.

That the gas he sells to the Marmet Gas Company and the Montgomery Gas Company is also delivered to them at the well, and that he receives therefor the price of 12 cents from the Montgomery Gas Company and 15 cents from the Marmet Gas Company.

That he made the contract with the Owens Bottle Company about three years ago; that the trend of prices for natural gas has been upward; that prior to the making of the present contract he received 7 cents; that at the expiration of his present contract he does not expect to make a new contract with the Owens Bottle Company at the present price of 10 cents; that the average cost of drilling a well in

the neighborhood in which he is operating is about $8,000, which [fol. 982] does not include any overhead charges, nor does it include anything for the proportionate cost of any dry holes, but simply is the actual cost of a completed well; that it costs as much to drill a dry hole as it does a producing well, except for the salvage that may be saved from the dry hole.

Cross-examination

That in the delivery of gas to the Owens Bottle Company he gathers the same in the lines and they lay the line to the first well and the gas is delivered by him in the field to that company; that the same conditions obtain as to the gas delivered to the Marmet Gas Company and the Montgomery Gas Company; that his operations are located eleven miles east of Charleston; that he has some other holdings in Boone County from which he sells the gas to the Owens Bottle Company; that his holdings are fifteen or sixteen miles from Charleston.

That the Owens Bottle Company is an industrial concern; the Marmet Gas Company and the Montgomery Gas Company sell gas to domestic consumers and also to industrial consumers; that he has not drilled any wells in the last year, but that he does not think the [fol. 983] cost of drilling wells has materially changed in the last year; that he thinks the present cost of drilling a well would be from eight to ten thousand dollars.

That the gas in the Lens Creek field where he is now operating comes from the Lime, also referred to as the Keener, a few of them being drilled in the Berea grit but nothing was obtained; that these wells are about 1,600 feet in depth, but most of the gas is gotten about 1,400 feet; that in each well there is used about 400 feet of 8 inch casing and about 1,200 feet of 6⅝; that packers are used to hold the tubing.

That a driller is paid $9 a day and a tool dresser $8 a day.

That he uses gas for fuel in drilling wells, which is taken off of the lease and not accounted for; that he is located back about seven miles from the railroad and has gas wells practically all over his territory; that he gets some oil and also some water, but not in the same sand as the gas, but the wells will eventually make water; that first comes the gas, then, after the pressure is reduced, sometimes oil, but more times water; that this same condition applies as to most of the fields with which he is acquainted; that the gas is pro- [fol. 984] duced on the anticlinal slopes and as a rule from the highest point of the slope, the oil going to lower levels and the water to still lower, and that he has found this true as a general rule in West Virginia.

That his experience has been pretty active during the last fourteen years; that he does his own drilling; that he does not extract the gasoline from the gas, but has had no objections from his purchasers on this account, and presumes that it does not interfere with its use; that he keeps his lines pretty well cleaned by blowing them out; that the price received for gas depends on the availability of the market,

just as in other commodities, and that most of his gas is within sixteen miles of Charleston.

H. A. WALLACE, introduced on behalf of the plaintiffs, further testified in substance and effect as follows:

That the Virginian Gasoline & Oil Company has a contract with the United Fuel Gas Company under the terms of which it extracts the gasoline from the gas, paying therefor a royalty of one-eighth; that this royalty has been regularly paid and charged as a part of the earnings of the United Fuel Gas Company; that at the present time this one-eighth royalty is considerably larger than one-half of the net [fol. 985] profits derived from the sale of gasoline; that at the present time this one-eighth royalty exceeds the entire profits derived from the manufacture of gasoline.

That since he testified formerly in this case he has made additional contracts for the purchase of gas by the United Fuel Gas Company, one of which was with the Heck Oil & Gas Company in Roane County; that in making this contract he was compelled to pay equivalent to better than 18 cents per thousand cubic feet in the field, and at the time spent approximately $125,000 in laying the line to the wells in order to secure the gas; that he was compelled to pay this in order to get the gas, and that he secured it at this price as against an offer from another company buying gas in the field of 18 cents therefor, and the conditions of the market with the other people were equally as good as with the United Fuel; that the price the United Fuel pays for the gas is 15 cents, but in addition thereto turned over and assigned to the Heck Oil Company a number of leases on territory desired by it, and it evidently considered the 15 cent price with this additional consideration as better than the 18 cent price offered by the other company; that this was the lowest price at which the gas [fol. 986] could be secured; that under this contract the United Fuel agree to take gas to the extent of 20,000,000 cubic feet per day, and to be connected to a compressor station to pump the gas.

That the Pittsburgh & West Virginia Gas Company and the Hope Natural Gas Company have been purchasing gas from the United Fuel Company at Cedarville and are still doing so; that the average price paid by these companies for natural gas for the year ending July 31, 1924, is about 24 cents; that terms for an extension of the contract have been agreed upon, with the provision that the price should never be less than for the last year, with the understanding that there will be a meeting of June of each year for the purpose of agreeing on the increased price.

That the cost of producing gas has increased very much in recent years; that this increase has been a very much larger percentage than the increase in labor and material; that this is because the cost of drilling the wells has practically doubled because of the increased cost of labor and material, while there is only procured from each well about one-seventh as much gas as there was in former years, so that the cost of getting a thousand cubic feet of gas at the present time as compared with a number of years back is about 14 to 1. To state it

[fol. 987] more definitely, several years ago the United Fuel Company average was about 7,000,000 cubic feet of gas per well, and now it is approximately 1,000,000 cubic feet of gas per well on an average; that in addition to this there is a considerable increase caused by the necessity of laying large lines as intake lines to compressor stations and constructing large compressor stations to force the gas onto the market; that in a great many instances it has to be double-staged—that is, what is known as low and high stage compressors, one series of compressors picking the gas up at a low pressure and discharging it at possibly 60 pounds into the other battery of compressors, which pick it up at that pressure and discharge it at the necessary pressure to deliver it to the next market or the next compressor station, which picks it up and compresses it again; that this necessity of using compressors has arisen altogether from the falling off of the rock pressure in the wells and by the comparative decrease in the volume of gas obtained; that the investment in these compressor stations and the cost of operating them has increased so that it costs more at this time to transport a thousand cubic feet of gas than it did a year ago or two years ago; that as the gas pools become more and more ex- [fol. 988] hausted the cost of compression per thousand cubic feet constantly increases in the same ratio; that there is also an additional expense when the volume and the rock pressure declines in the wells to the extent that it becomes necessary to keep the water off of the sand; that this has to be done by installing pumping outfits; that an employee is used to take care of as many wells as he can attend to; that it is also a considerable expense to install these pumping outfits.

That there is a considerable difference in the cost of delivering gas to what are called domestic consumers and industrial consumers, principally caused by the service to the industrial consumers being secondary and subordinate to the service furnished the domestic consumers, and also on account of the maximum hourly demand or maximum supply of gas which must be maintained in the field, caused by the domestic consumer; that very largely the maximum transportation facilities maintained are caused by the domestic consumer; that in addition to this, over 90 per cent of the distribution system is for the domestic consumer, while the industrial user of gas has been the chief source of revenue during at least six months in the year, that is, the summer months, at which time the domestic consumer uses [fol. 989] very little gas; that the service to the industrial consumer is and will continue to be far inferior to that furnished to the domestic user; that this is caused by the increased demand for gas in cold weather by the domestic consumer, leaving a less supply for the industrial user, and at times entirely stopping the deliveries to such consumers.

Cross-examination:

That gasoline at this time is selling at a very low price; that the price fluctuates, but it has fluctuated altogether downward; that he doesn't recollect from the time the first contract was made of it ever going up, although about this he is not positive; that there is fluctuation in the price, but that today in the gasoline business and for

quite a long distance ahead the best informed people do not see any bright future for it—that is, for the manufacture of it; that the price of coal is also down, and that this price fluctuates more or less, depending on the production and the consumption; that the lands from which the gas is purchased from the Heck Oil & Gas Company are in Roane county about 24 or 25 miles from Charleston; that the United Fuel Company has a large amount of acreage in that county; that when this gas was bought the United Fuel Company had pipe [fol. 990] lines into the county, but had to spend from $120,000 to $125,000 to lay a line to reach the Heck Oil & Gas Company territory; that that company has under lease four or five thousand acres, as near as he can estimate it; that there are other people in the field endeavoring to buy gas from independent producers; that the gas taken from the Heck Oil & Gas Company will be principally delivered to the Ohio Fuel Supply Company to go to Ohio and Pennsylvania, although it can come the other way, depending entirely on the direction it is desired to send it; that the United Fuel Company has a line to Cedarville, which is 25 miles from the Heck Oil & Gas Company operations; that the price of wells has gone up considerably as compared with prewar prices; that even the war cost of drilling a well has increased as to some items and decreased as to others, and that as a whole the prices are approximately the same as the war prices, with some decrease from peak war prices; that the cost of labor is practically the same, there being a little decrease as compared with the peak prices paid to drillers and tool dressers; that drillers are paid $9 a day; that during the war period at one time they were paid $11 and $12 a day; that there has been very little decrease in the price of [fol. 991] casing used in the wells; that the price of 6⅝s, 17-pound casing is about $103 a ton at present prices, and that it was about the same during the war period; that the prewar price was $37 a ton; that most of the casing purchased by the United Fuel Gas Company is from the Mark Manufacturing Company, of Pittsburgh, Pennsylvania; that the United Fuel gets no preferential price, except that it may get a lower price for the large quantities purchased by it than one purchasing a much less quantity would get.

That F. W. Crawford, of Pittsburgh, Pennsylvania, is president of United Fuel Gas Company; that G. W. Crawford, his brother, is president of the Ohio Fuel Supply Company; that most of the gas obtained by the United Fuel Gas Company is obtained in the Injun sand in the Clendenin and Spencer fields; that a large amount of gas is also secured in the Spencer field in the Berea sand, which is below the Injun, these wells being 2,500 to 2,600 feet; that as a whole the larger amount of gas is produced in the Injun sand; that there is in the neighborhood of 1,600 feet of 6⅝s casing in one of these wells; that this casing is used to shut off the water and the pencil cave, which lies between what is known as the Little Lime and the Big Lime. We case at the top of the Big Lime, and the [fol. 992] Big Lime connects with the Injun sand. Separate cost sheets are kept on each well.

The foregoing was all the evidence in chief introduced by the appellants.

The defendants introduced the witnesses John Jirgal, William F. Hagenah and C. E. Krebs. At the request of the defendants, it is directed by the Court that the testimony of said Jirgal and Hagenah shall be reproduced in the exact words of the witnesses, which is necessary in order to understand the testimony, it not being susceptible of presentation in different form.

[fol. 993] JOHN JIRGAL, having been duly sworn, testified as follows:

Direct examination.

By Mr. Diederich:

Q. Give your name to the stenographer.

A. John Jirgal.

Q. What company are you connected with?

A. I am with the firm of Arthur Andersen & Company, certified public accountants.

Q. And what part of the business of this company are you in charge of?

A. Well, our firm has offices in Chicago, New York, Kansas City, Milwaukee and Washington, and in our New York office we have a department which confines itself strictly to public utility work and also a similar department in our Chicago office.

Q. Will you please give us a brief outline of your connection with public utilities, in the examination of accounts of public utilities?

A. Well, I was connected with the Railroad Commission of Wisconsin from 1910 to 1916, in the Accounting and Statistical Department. In the latter year I became associated with Hagenah & [fol. 994] Erickson, public utility engineers and rate analysts, and continued with them until 1920, except for the period of the war — that is, the period when I was in active service. I became associated with Arthur Andersen & Company in 1920, and have been there since and am a member of that firm. We do a large number of public utility investigations and audits, for the purpose of sale of public utility properties, for the financing of the same, for internal and administrative purposes and for these rate adjustments. We audit annually some of the largest public utilities in the United States, such as the Northern States Power Company, which operates in Minnesota, Wisconsin, North and South Dakota and Iowa; the Consumers Power Company, which operates extensively throughout the lower peninsula of Michigan; the Louisville Gas & Electric Company, which operates around Louisville, in Kentucky, around that point, and the Republic Railway & Light, which operates in Pennsylvania and Ohio, at Youngstown, New Castle and that region;

the Cuban Telephone Company, which operates throughout the island of Cuba, and a number of other large companies.

Q. What has been your connection with the analysis and study of accounts of public utilities as used in rate cases?

[fol. 995] A. I have been connected personally with such cases as the New York Steam case, the Chicago Telephone case, the Chicago gas case, the Dayton Power & Light, Richmond Water & Gas, The Birmingham Telephone, Louisville Telephone, Lincoln Street Railway, Indianapolis Water case, East Chicago Water, Peoria Gas, and these West Virginia natural gas cases, the natural gas case in Topeka, Kansas, the West Virginia telephone cases, Huntington Water and others.

Q. What work have you done, Mr. Jirgal, for bankers and financial institutions with reference to the investigation of companies or other companies doing public utility business?

A. Well, we do the initial investigating work for some of the largest banking institutions in the country, going into the property usually before financing takes place, and also we go into investigations of properties for purchasers in the case of some of the larger organizations.

Q. Mr. Jirgal, have you had occasion to examine the books of the United Fuel Gas Company, and from such examination have you made studies, analysis of accounts of the company?

A. I have.

[fol. 996] Q. When was that?

A. I have been in the United Fuel Gas Company investigation of 1919, 1921 and 1923, and the present investigation covered a period of three or four months.

Q. With such investigation, have you inspected and studied the exhibits filed in this case by Mr. Uebelacker and Mr. Hightower?

A. Yes, sir, I made some study of them.

Q. I will ask you whether you have prepared, from your investigation of these books, a study covering the investment as reflected in the property of the United Fuel Gas Company?

A. I have, yes, sir.

Q. Have you that with you?

A. I have that here in the way of an exhibit.

Q. I note that this report you just handed me is signed by "Arthur Andersen & Company, Certified Public Accountants."

A. Yes, sir.

Q. That is the firm you just referred to?

A. Yes, sir.

Q. But the report as prepared has been prepared by you?

A. Yes, sir.

[fol. 997] Q. And is the result of the examination that you have made of the books of the company?

A. Yes, sir.

Mr. Diederich. We offer this as "Jirgal Exhibit No. 1" and ask that it be so marked.

Jirgal Exhibit No. 1.

(The same was filed, marked as above indicated, and is hereto appended.)

Q. Now, Mr. Jirgal, I wish you would state for the record what you find as the original cost of the property of the United Fuel Gas Company that is devoted to the natural gas service.

A. You mean the amount?

Q. The amount and just explain how *how* arrived at it.

A. The amount of the original costs, subject to some qualifications which will be explained later on, is $26,288,911.83. I wish to explain at the outset that the investigations which we have made heretofore covered only the United Fuel Gas Company, and in the last instance the Virginian Gasoline & Oil Company. This time we have treated the property on a consolidated basis, and have included with the United Fuel Gas Company its gas subsidiaries, the Cabin Creek Gas Company and the Warfield Natural Gas Company. I want [fol. 998] to make that explanation, so that in the case of any differences between the figures for prior years and those contained in this report, that will be the reason for them,—the reason will be obvious.

The report that we made in this connection, in other words, this Exhibit 1, was for the purpose of ascertaining the original cost of the present property in use. It was also for the purpose of determining the net earnings available for the natural gas business, and the distribution of both of these factors between the various divisions of the company's business.

Q. Does this exhibit so reflect such division?

A. Yes, sir, it does. On the books of the United Fuel Gas Company the property account is shown to amount to $74,069,215.83, that is for the United Fuel Gas Company, the Cabin Creek Gas Company, the Warfield Natural Gas Company and the Virginian Gasoline & Oil Company. For the purpose of convenience, we might term the last three companies subsidiaries, although in the strict sense the Virginian Gasoline & Oil Company is an affiliated company and not a subsidiary.

Q. How is that divided—the several accounts?

[fol. 999] A. The total investment of $74,069,088.00 is divided between the different branches of the United Fuel Gas Company and subsidiaries' business as follows:

The natural gas is charged with	$59,636,100
The gasoline, including tank car	1,770,302
The oil	12,449,910
The carbon black	113,868

Then there is an item of incomplete construction included for $119,034.00.

Now, the book value of the natural gas property is made up as follows:

There is $27,511,797.00 which can be designated, for the purpose of this report, as the book value of the original properties acquired, plus the additions and extensions since the acquisition stated at cost reflected by the books; value added through appraisal is the other item and amounts to $32,124,303.00.

Now, there is a slight difference between that figure and the $31,000,000 that has been introduced in the previous hearing, due to the fact that the Cabin Creek Company is included.

Q When was this appraisal value on the acreage put onto the books of the company?

[fol. 1060] A. That was placed as of the year 1918; I think the appraisal was made later than that, but the books were held open and the appraisal put on as of that date.

Q Now, in ascertaining the cost of the physical property how have you treated this appraisal value of the acreage?

A We were instructed to find, as closely as may be, the original cost of this property, and for that reason we would have to exclude any appreciation.

Q And is that what you have done?

A We have excluded the $32,000,000 from the $59,000,000 to arrive at the original cost per books.

Q Now, in addition to that, have you excluded any other items?

A From the per books figures we have excluded three items and added back one. We have taken from the acreage account the proportion which we feel should be assigned to the Oil Department. We have also taken from that what is termed by the company Financing Improvement and Betterments, and also an account called Depreciation and Adjustment, and we have added back the item of Incomplete Construction.

Now, before I go on with the explanations for the reasons of these [fol. 1061] deductions, I want to give the make-up of some of them. In the case of the item of Depreciation and Adjustment, amounting to $756,000, that item is made up of the following:

The cost of dry holes, $413,182.00——

Q (Interrupting) Well, now, why do you exclude that item?

A Well, the property is no longer in service, the holes are dry and not productive. The surrendered acreage amounts to $238,759.00; abandoned wells amounts to $29,776.00. And then there are some miscellaneous items amounting to $29,882.00. In the case of the financing of improvements and betterments, the make-up of that item is this:

Discount on bonds $191,225.00, certificates for fees in connection with bonds $1,947.00; the listing of the bonds on the Exchange $610.00, and then there are some unaccounted for items amounting to some two thousand odd dollars.

Q Give your reasons why those were excluded from the cost of physical property, please.

A Each item?

Q Well, in general.

[fol. 1062] A In the case of discount and expense, the usual rule is to treat this as a deferred charge and to write the same off over the life of the securities. That is the accounting treatment provided in the uniform classification of accounts of every public utility commission, so far as I know. These items are merely interest paid in advance and for that reason should be treated in that manner.

Q. After making these deductions from the original cost and adding the Incomplete Construction, what do you find as the original cost of the property of the company?

A. Well, that original cost is $26,288,911.00, but that is subject to the remarks made on page 4, and I think for the purpose of the record it would probably be well to read that in.

(Reading:) "The adjustment under the caption of Financing Improvements and Betterments is for the purpose of eliminating from the property accounts the element of bond discount and expense. This discount and expense was incurred for the most part in connection with the marketing of the company's first mortgage bonds in 1916 and 1917. Items of this character are properly classified as [fol. 1003] a deferred charge. They are, in effect, interest paid in advance and as such should be amortized over the life of the securities to which they relate. Public service commissions generally have held that this is the proper treatment for security discount and expense items.

Prior to 1916 in cases where the company retired property or abandoned acreage it charged the book cost thereof either to operating expenses or profit and loss. In the years 1916 and 1917 and to a minor extent in 1918, it transferred such book cost from the physical property accounts to an account called Depreciation and Adjustment. The amounts in the latter account were still retained as part of the natural gas property cost. Since this property is no longer in service its cost cannot be included in the original cost of the existing property. If a depreciation reserve had been provided in the earlier years the amounts in the Depreciation and Adjustment account would have been chargeable thereagainst. In the absence of a depreciation provision the book cost of the retired or abandoned property should have been charged to profit and loss. In any event this item is not properly included in the cost of the physical property. [fol. 1004] In reports heretofore made we have always included Incomplete Construction as a part of the property cost. Such incomplete construction is often incomplete from an accounting standpoint only. The property is sometimes actually in use and where this is not the case the investment has at any rate already been made. In the present case no interest is charged to construction so that no carrying cost is added to the direct cost.

The cost of the gas property after adjustment ($26,282,911.83) as shown above, does not represent the actual cash cost of the property either to the present owners or to the present owners and their predecessors in interest.

At the time the present company (United Fuel Gas Company, Inc., and Subsidiaries) was organized in 1920 it acquired property, represented principally by acreage, from the United Fuel Gas Company (old company), the United States Natural Gas Company and the Hope Natural Gas Company. On the books of the United Fuel Gas Company, Inc. (the new company) the property acquired was taken up partly on an appraisal basis and partly on the basis of the book [fol. 1005] values of one of the predecessor companies. The consideration as far as reflected by the books of the United Fuel Gas

Company, Inc., is concerned, was the issuance to third parties of certain stock and debenture bonds, such third parties in turn making the actual settlement in the case of the Hope Natural Gas Company and the United States Natural Gas Company acquisitions. The actual cash cost of the properties to the present owners cannot be accurately ascertained unless access can be had to the books of the companies from whom the properties were acquired. The method used by the company in finally recording such acquisitions on its books had the effect of clearing all of the unaccounted for physical property through the acreage account, so that subject to the correctness of the book cost of the acreage, the other physical items are recorded on the books as nearly as may be at the original cost thereof."

In other words, the pipe lines and the wells and the distribution systems, etc. are stated at the original cost, as nearly as they may be determined. I say that because of the fact that the original property taken over of this nature was very small and was appraised in the pre-war period, when the difference between original cost and [fol. 1006] cost of reproduction was very small, and if there is any discrepancy there it would be very minor, considering the additions that have been made to the property since.

Q. So, if my understanding is correct about that, as the items appear on the books of the company as the cost of the leaseholds, does not reflect the original cost of those leaseholds?

A. It does not.

Q. But a higher cost?

A. Yes, sir.

Q. At this time can you give us any idea, from your examination, as to approximately the original cost?

A. Well, of course that would be rather hard to determine. I am going into that question in a separate report, and I think certain deductions can be made which would at least give an indication of what that might be.

Q. All right. Now, have you also made an investigation of the operating expenses of the company?

A. I have.

Q. In those operating expenses, you have made some adjustments to them, have you?

A. Yes, sir.

Q. Will you please explain them?

[fol. 1007] A. I will. The net earnings per books for the Gas Department are $4,307,719. To this amount we have made adjustments amounting to $2,196,550.00, making the net earnings as adjusted $6,504,000.00.

Q. That is for the year 1923?

A. Yes, sir.

Q. Now, will you just state for the record wherein those adjustments were made and why?

A. Well, the principal adjustment is for the purposes of increasing the revenue which would accrue to the company, if the affiliated companies,—that is, the Columbia Gas & Electric Company and the

Ohio Fuel Supply Company paid rates comparable with those paid by the West Virginia consumers.

Q. Why do you use the West Virginia consumers as a basis?

A. Because the gas to these two parent companies is delivered at points in West Virginia which compare with the average points of delivery for the retail business done in that state. The basis for this statement was the determination of the distribution costs of the company, which we found to be 3.71 cents per thousand cubic feet.

[fol. 1008] Q. Now, that cost is reflected from the accounts of the company?

A. Yes, sir, except that additions have to be made for depreciation allowance, the allocation of taxes, the allocation of general expenses and the return on investment. In addition to that, some consideration must be given to the fact that the rate base heretofore used in an adjudication of rates has been in excess of the book value of the property, such items as working capital, going concern value and the accrued depreciation in the property, and appreciation due to changes in prices, have been considered, so for the purpose of making this adjustment we used 4½ cents per thousand cubic feet.

Q. What is that for—distribution costs?

A. Yes, sir.

Q. What factors then did you take which you applied to the gas taken by the parent companies?

A. Well, we deducted that 4½ cents from the average rate paid by the West Virginia cities, which is 20.27 cents, which resulted in an amount of 15.77 cents per thousand cubic feet, which is used in the adjustment and applied to the consumption used by these two companies.

Q. That is 15.77 cents?

[fol. 1009] A. Yes, sir.

Q. You used as representing the value of the gas the West Virginia city limits?

A. Yes, sir. I might go further and say in determining on this 4½ cents we went ahead and found out what it would be if we used Mr. Uelwlacker's reproduction cost and, as I recall that, it was somewhat over 5 cents.

Q. Now, what other adjustments there did you make?

A. There is the rentals which deal with the unoperated acreage, which is chargeable to the Oil Department. I have explained that previously. And also, in this report in previous investigations, we apportioned taxes between the departments, but that was necessary at this time only to the extent that a proportion of the leasehold book value has been assigned to the Oil Department. The Virginian Gasoline & Oil Company now pays its own taxes, and of course all the taxes that apply to the Oil Department, the Gasoline Department and the carbon black department are reflected on the Virginian Company's books. I might say at this point, too, it has not been necessary to apportion the general expenses at this time, as heretofore, because the company has followed the principle of assigning the joint general expenses to the Virginian Company and the United

[fol. 1010] Fuel Gas Company on a basis that fairly reflects, as far as we could ascertain, the proportion that ought to be borne by each.

There are some minor adjustments for profit and loss items. These profit and loss items are really delayed items; they come in a year subsequent to the year to which they apply and the company handles them through profit and loss; they are operating expenses, just the same as if they went through the accounts regularly, because the company suffers a loss to that extent.

There is made an allocation of 50 per cent of the gasoline net earnings, the basis of which is set forth on page 8. There is a change in that from our previous investigations, in that the company's basis for depreciation has been accepted, as well as the amount.

Q. These, I believe, are the earnings on gasoline for the year 1923?

A. Yes, sir. There is also deducted Federal income taxes in excess of that shown on the company's books, for the reason that were the adjustments we made reflected on the books, there would be an additional income tax; the company has on its books for the year 1923 an accrual of $113,000, and this we have increased to $312,
[fol. 1011] 000, in round numbers, for the reasons I have given.

Q. So in these adjustments you have increased the net earnings of the company from $4,307,719.72 to $6,504,270.00?

A. Yes, sir.

Q. And by making those adjustments you reflect truly what the net earnings are, if the books of the company and transactions as detailed by you had actually been made and kept, it would have been required to pay $312,000.00 Federal income tax?

A. Yes, sir. I want to bring out here that the adjustments, so far as the parent companies are concerned, does not affect the allocation for the state of Kentucky; in other words, this adjustment would not have to be made at all if it weren't for the fact that the net earnings applicable to the combined property has been considered before in total; in other words, it wouldn't make any difference, if you made that adjustment or not, if the record showed in the distribution to the Kentucky consumers it was taken into account.

Q. Any other comment you wish to make, Mr. Jurgal?

A. That is all.

Q. Now, Mr. Jurgal, have you distributed this investment and net earnings to the various divisions of the company?
[fol. 1012] A. I have.

Q. I wish you would explain that.

A. Before we go into the distribution I want to bring out the point that we have added to the book costs of the property as used herein an allowance for working capital and going concern value. I understand that the engineers are in agreement as to the allowance for working capital at $900,000.00.

Q. That is the engineers for the company and the protestants, the cities?

A. Yes, sir. Mr. Hagenah stated he thought that was fair for working capital.

Q. So you have taken that into consideration in allocating this investment?

A. Yes, sir.

Q. What have you done on the item of going concern value?

A. On that item I have accepted the estimate to be testified to by Mr. Hogenah—that is Three Million Dollars. Adding those two items to the book cost of the property as used herein gives a total in-
[fol. 1013] vestment in the natural gas service of $30,278,912.00.

Q. Please proceed, Mr. Jirgal.

A. Now, the adjusted revenues and operating expense for the purpose of this report, have been distributed between the various sections of the company's business on the basis heretofore applied by the Public Service Commission of West Virginia and approved by them, with the exception that in the case of transmission property cost, the system demand mileage has been used.

Q. What do you mean by that, Mr. Jirgal?

A. I mean that the contribution which each division of the company makes to the system's maximum demand has been multiplied by the distance the city or section of business is from the center of the producing field. I might add that the transmission investment and expenses are a comparatively small part of the—or I should say are not the largest part of the system, so that the use of this method or any method would probably not show greatly different results, if applied to cost figures. I haven't checked Mr. Uebelacker's figures to find out what the difference would be, but I wouldn't say it would be large, especially as between Kentucky and the rest of the service.
[fol. 1014] As a matter of fact, if the demand principle the company has contended for is right, this demand mileage ought to allocate to Kentucky more, it would seem to me, than the sales basis, and, I might say if the sale mileage were used, it would give more favorable results from defendants' viewpoint for Kentucky.

Q. Now, Mr. Jirgal, have you further subdivided the branch of the business referred to as Ohio and Kentucky divisions between those two states?

A. I have.

Q. Will you introduce that exhibit and make it a part of the record and call it "Exhibit Jirgal No. 1A"?

A. I will.

Exhibit Jirgal No. 1A.

(The same was filed, marked as above indicated, and is hereto appended.)

Q. Now, Mr. Jirgal, how much of the investment do you allocate to the Kentucky division?

A. There is allocated to Kentucky in total $2,656,094.00.

Q. What are the net earnings available for depletion, depreciation and return for Kentucky?

A. $749,839.00.

[fol. 1015] Q. Now, what is the percentage on investment applicable to depreciation, depletion and return?

A. 28.23.

Q. Do I understand you to say the amount reflected by that percentage is available for depletion and depreciation and return?

A. Yes, sir. Now, while on the subject of depreciation and depletion I think probably it would be well to refer to page 14 of the exhibit No. 1, which shows what depreciation the company sets aside on a cost basis; in other words, this excludes the depletion on the value added through the appraisal of the properties.

Q. This is just simply what the company is doing?

A. With this exception, we use the rates the company uses but have made the exclusions I have referred to for depreciation and adjustments, bond discount and expense and the oil acreage.

Q. What is the total amount that is allocated to the Gas Department?

A. $1,251,538.00.

Q. And what is the grand total?

A. For the grand total for all departments $1,685,252.00.

Judge Ritz: I want to know if that includes the depreciation, depletion and amortization of the company?

[fol. 1016] A. The company has no such item as amortization on its books.

Q. 4.8 per cent you make for all?

A. Yes, sir.

Mr. Diederich:

Q. Now, does that cover, Mr. Jirgal, a full explanation with reference to all the tables that accompany these Exhibits No. 1 and No. 1A?

A. I haven't explained the tables. I felt they are self-explanatory.

Q. You think they are?

A. Yes, sir.

Judge Ritz:

Q. This 4.8 per cent which you figure on page 14 for depreciation, is that a part of the 28.23 per cent, or have you taken that out of the 28.23 per cent?

A. I have not taken it out; it is a part of that.

Q. Then, taking that out it is practically 24 per cent return on the investment, is it not?

A. Well, I have a computation I will introduce presently giving the effect of this, if you desire.

Judge Ritz: Yes, sir.

Mr. Diederich:

Q. Any other statements you desire to make in connection with this exhibit?

A. The basis for the statement on page 11 I have already explained. [fol. 1017] It shows the distribution to the various classes of the company's business, the amount of each of these items. It also shows the

net earnings available for depletion, depreciation and return, in the case of each class of business, and the percentages which I heretofore read.

Now, on page 12 I show the application of the adjustments which we have made to the book revenues and expenses, and the revenues, expenses and net earnings as adjusted.

One page 13 I show the cost of the property and plant per books, the adjustments we have made and the cost of property and plant as adjusted, also the make-up of the $26,288,911.00 as between the various accounts.

Q. Mr. Jirgal, how does your figure there as to the total book cost of the property compare with that of Mr. Uebelacker?

A. I think, as I recall, about $6,000,000 difference.

Q. I will ask you if you have made a study of the amount of money which this company has in net earnings available for return, after depreciation, depletion and amortization?

A. I have made such a study.

Mr. Diederich: We hereby offer the study, and ask that it be [fol. 1018] marked "Jirgal Exhibit No. 2."

Jirgal Exhibit No. 2

(The same was filed, marked as above indicated, and is heretofore appended.)

Q. Please explain this, Mr. Jirgal.

A. Well, in this table the same investment and the same allocation of investment to the various classes of business as used in the preceding exhibit are shown, and the same net earnings are shown. There is deducted from it the allowance made for depreciation and depletion on the company's rates, with the adjustments thereto I have already explained. In other words, the $1,251,539.00 has been deducted from the net earnings available for depreciation, depletion and return, and the net earnings available for return alone has been arrived at; that is for the first section of the table. The second section relates to depreciation and depletion computed on basis of the exhibits to be filed later in this connection, and you will note the amount of depreciation and depletion is $1,399,227.00.

Q. Your depreciation and depletion appears upon this exhibit in red, I believe?

A. Yes, sir, for the reason it is a deduction. This amount of [fol. 1019] $1,399,227.00 is approximately $150,000.00 in excess of that on the company's basis, or about 12 per cent I should say.

Q. In other words, you have charged more for depletion and depreciation than what actually appears upon the books of the company?

A. On this second basis, yes, sir. After deducting the item of depreciation and depletion the net earnings available for return for each division of the company's property is shown in column 4.

Q. What is the amount?

A. The amount on the company's basis of setting aside deprecia-

tion and depletion, on the book cost of the property, is for the several divisions as follows:

State of West Virginia	$1,225,703.00
State of Kentucky	640,087.00
State of Ohio	319,740.00
Wholesale Consumers	3,067,201.00
Total	$5,252,731.00

Q. What is the average per cent on the investment for the state of Kentucky?

A. 24.10

[fol. 1020] Q. What rate of return is earned after computing depreciation and depletion at the rates used by you in the other exhibits?

A. Now, on the depreciation and depletion computed on the basis of the exhibit which will be filed by us herein, the net earnings, after depreciation and depletion, or the net earnings available for return for the state of Kentucky, are $627,136.00, and the percentage on the investment is 23.61 per cent.

Q. Mr. Jirgal, have you made a study and analysis of the books with reference to the book value of the acreage of the United Fuel Gas Company?

A. I have.

Mr. Diederich: We ask that this study be filed as "Jirgal Exhibit No. 3."

Jirgal Exhibit No. 3.

(The same was filed, marked as above indicated, and is hereto appended.)

Q. Now, Mr. Jirgal, in order to give the details as to the present and original book value of the acreage, I will ask whether you have made a study of the history of the company, and which is more or less related to the original and present book value of the leases?

[fol. 1021] A. I have, yes, sir.

Q. I wish you would proceed to give us that history as reflected in this exhibit.

A. Well, in order to understand the acreage account, for the purpose of presenting the original cost of the acreage, it was necessary to go into the history of the company to find out just how the book value was arrived at; the acceptance of the figures as the book cost, without going into the history and the make-up of the acreage account, wouldn't give all the information necessary for the Commission to ascertain the approximate original cost thereof.

Q. You say it would not give?

A. No, because of the factors which I will explain here.

Judge Ritz: I want at this time to note an objection to this character of testimony, for the reason that the original cost of the acreage in the remote past is not pertinent to prove the present value.

A The original United Fuel Gas Company was organized on March 2, 1903, and up to the year 1909 had issued only $250,000.00 of capital stock. In the latter year it was reorganized by the formation [fol. 1022] of the United Fuel Gas Company, Incorporated, which is the present company, and the authorized capital stock was increased from $250,000.00 to $10,000,000.00. At the time of the reorganization, the present company apparently took over the book assets of the old company and assumed its liabilities.

I give here on page 1 the opening entry on the books of the United Fuel Gas Company, which shows that the property account had in it $980,094.00, and also capital stock outstanding of $250,000.00 and it was indebted to the Ohio Fuel Supply Company $778,121.00.

No investigation has been made of the books of this company to determine the book value of $980,000.00, but the records of the new company state that 277,997 acres of leasehold rights and a few wells were acquired from the old company. The account with the Ohio Fuel Supply Company was liquidated by the issuance of $750,000.00 in capital stock, thus bringing the issued stock at that time to $1,000,000.00.

The new company, shortly after its organization, acquired the property of the United States Natural Gas Company and certain of its subsidiaries and also acquired considerable acreage from the [fol. 1023] Hope Natural Gas Company. These acquisitions, together with the property taken over from the old United Fuel Gas Company, form the nucleus of the present system.

In the case of the United States Natural Gas Company purchase, the contract of purchase was originally made on July 15th, 1909, by Mr. M. C. Treat and Mr. George W. Crawford. They later assigned their rights to the Ohio Fuel Supply Company. That assignment was provided for in the contract.

Mr. Diederich

Q Did you ascertain what position, if any, these two gentlemen had with the United Fuel Gas Company?

A Well, the Board of Directors' minutes approving this contract show that both of these gentlemen were directors of the United Fuel Gas Company at that time.

Q Have you made any investigation to ascertain what official position these gentlemen occupied in the corporate structure of the Ohio Fuel Supply Company?

A No, I have not. The Ohio Fuel Supply Company in turn directed that conveyance be made to the United Fuel Gas Company. The original contract with Messrs. Treat and Crawford provided for a cash consideration of $2,081,250.00 and the assumption by the [fol. 1024] purchasers of all of the liabilities of the United States Natural Gas Company and those of the subsidiaries covered by the purchase. The company received for the above consideration all of the physical property and rights of the United States Natural Gas Company and these particular subsidiaries, together with the

other assets in the form of receivables, materials, etc., owned by them.

The purchase was recorded on the books of the United Fuel Gas Company on the basis of the book value, as we understand it, of the property account on the books of the United States Natural Gas Company, and the recording of the value on the books of the United Fuel Gas Company in this manner resulted in the difference between the assets and liabilities being $4,073,898.60, which was considerably in excess of the cash consideration in the original contract. The difference between the amount at which the net assets were taken on the books and the cash consideration paid by Messrs. Treat and Crawford was $1,992,648.60.

The United States Natural Gas Company's property consisted of 145,742.48 acres of leasehold and fee rights and also a natural gas transmission and distribution system.

[fol. 1025] On June 30, 1910, the Hope Natural Gas Company deeded to the United Fuel Gas Company its rights in 614,000 acres of gas and oil land and some minor property. The other property was very insignificant. The accounting in connection with the property was, as in the case of the United States Natural Gas Company, for some time prior to the actual date of the deeds. I might add, in the case of the United States Natural Gas Company, while the property was taken in September, the accounting was actually made as of May 31, 1909. In other words, the United Fuel Gas Company got the earnings and assumed the expenses, and they got the assets and assumed the liabilities between May 31, 1909, and the actual date of the exercising of their option to purchase. The acquisition from the Hope Natural Gas Company was taken up on the books at $3,200,741.00. The actual cash consideration, if any, is not shown by the records. When I say "actual cash consideration, if any," I mean whether there was any actual cash passed in this transaction is not apparent from the records. I don't want it to be inferred that this property was bought for nothing. I just make that explanation.

Both the Hope Natural Gas Company and the Ohio Fuel Supply [fol. 1026] Company had advanced considerable sums to the United Fuel Gas Company for development and other purposes, and in July, 1910, all of these advances and also the property purchase accounts were settled by the issuance directly or to third parties of $5,000,000.00 in capital stock and $3,392,072.90 in debenture bonds. The transaction was recorded on the books as given at the top of page 4.

It will be noted that the United States Natural Gas Company and the Hope Natural Gas Company purchases were included in this settlement at the amounts already referred to. In other words, in the case of the United States Natural Gas Company the settlement was made on the basis of $4,073,898.60, in the case of the Hope Natural Gas Company acquisition the settlement was made on the basis of $3,200,741.00.

The distribution of the securities, as shown on the middle of page 4, shows that the Ohio Fuel Supply Company got $1,587,-

854.83 par value of the debentures and $1,000,000.00 par value of the stock; the Hope Natural Gas Company got $569,726.03 of the debentures and no stock; Alfred C. Bedford or to whom he may direct secured $1,028,392.00 of the debentures and $4,000,000.00 of par value of stock; Standard Oil Company of New York got $206,- [fol. 1027] 100.00 of the debentures.

It will be noticed from what I have said already that the United States Natural Gas Company acquisition and the Hope Natural Gas Company acquisition were recorded on the books at values which apparently had no reference to any cash consideration involved. An appraisal was apparently made of the physical property,—that is, the transmission and distribution lines, wells, etc.,—which property was acquired aside from the acreage, and the balance of the book value placed on the total property was considered as applying to such acreage. This acreage was first given a value of $7.00 per acre at about the time of acquisition, but this left $2,000,000.00 in the property account as unassignable to any tangible property. In 1911 the officers of the company placed a value on each leasehold or other property rights ranging from $1.00 to $50.00 per acre. The valuation per acre for the more important districts is shown on page 14, if you will refer to that at this point. If you look at the total column you find the operated acreage in the Big Sandy District the average valuation is $44.00 per acre; in the Curtis District, Roane County, [fol. 1028] the valuation is $50.00 per acre; in the Geary District, Roane County, the average is $49.67 per acre; for the Smithfield District it was $45.70 per acre; for the Spencer District $50.00 per acre; for the Walton District it was $39.77 per acre; for all the other districts a valuation of $1.00 per acre.

In the case of unoperated acreage, the valuations are somewhat lower, but for all of the territory in the principal producing fields the valuations are at least in excess of $10.00, and the average is considerably above that. Six hundred and twenty-five thousand acres in the unoperated fields was classified as having a value of $1.00 per acre; in all 1,050,000 acres were valued in this manner.

Q. Gave a total appraisal or valuation of how much?

A. The total valuation was $7,233,538.00. That, by the way, is just $300,000 greater than the acreage today.

Q. As carried on the books of the company on a cost basis?

A. Yes, sir. Now, we made a very extensive analysis of the acreage account. This involved, as you might surmise, a great amount of work, as there are thousands upon thousands of these leases, but in order to ascertain the make-up of the acreage account, [fol. 1029] the detail work had to be done.

Q. Did that involve an examination of each lease and each voucher?

A. Each voucher relating to the lease, yes, sir, as I will explain later on, certain of the vouchers were missing, not through any fault of the company's accounting system, but they were in some other department or something like that and couldn't be immediately located. We reviewed 90 percent of the leases purchased since the date of the purchase of the original property.

I want to say right here that the company's records are very complete; they are well kept, and you can get as near as possible perfect information from them. I think as clear a set of records as I have ever seen.

This table shows how the present book value of the acreage is arrived at; that is the table on page 6. I want to state at the outset there is in there, because of the consolidation of the companies, 10,483.6 acres and $238,107.92 of the oil acreage which is applicable to the operated portion of the oil property of the Virginian Gasoline & Oil Company. In other words, for the purpose of this case, that [fol 1030] would have to be excluded from this figure of $6,971,569.00 at the outset. This has nothing to do with this adjustment we made for unoperated oil acreage. It relates to what the Virginian Company shows on its books as operated oil acreage.

This statement shows in the first line the original purchase from the United States Natural Gas Company, the Hope Natural Gas Company, and the United Fuel Gas Companies, and at the bottom of the statement I have a summary which brings out the $7,233,538.00 valuation to which I have already referred.

Now, properties were subsequently acquired from other parties which had a value of approximately $500,000.00 and a total of approximately 69,000 acres. In order to get that figure you have to add the operated and the unoperated acreage.

Now, the next item is very important as bearing upon the present inquiry. This is the miscellaneous leasehold acquisitions which have been made by the company since the original purchase of the properties from the United States Natural Gas Company and the Hope Natural Gas Company. I want to exclude, for the purpose of this discussion, the items under the operated acreage caption, be-[fol 1031] cause they are small, and confine my testimony to the unoperated territory or field. This shows there was acquired from 1909 to 1923 1,028,000 acres of unoperated territory, for which a cost is shown on the books as $1,031,081.00 or approximately $1.00 per acre. During this period in the unoperated section there was abandoned approximately 1,300,000 acres, for which a valuation of approximately $1,666,000.00 was recorded upon the books, and it gives a per acre value of slightly in excess of $1.00. In other words, most of the acreage abandoned appears to have been abandoned in the territory which is not now producing territory, during the time that I have mentioned from 1909 to 1923.

Q. Does this include 1923?

A. Yes, sir. There was transferred from unoperated to operated acreage 56,074 acres, at a valuation of $1,389,000.00.

Q. How was that item of $1,389,000.00 obtained?

A. Well, that $1,389,000.00 was obtained by taking from the books in the case of leases that were transferred over to the operated acreage, that valuation that was placed on those particular leases in the beginning, and I show later it also included the cost for making [fol 1032] additional bonus payment at the time the renewal was made.

Now, going next to the acquisition of these miscellaneous acquisi-

tions, the total of which is 1,028,132.15 acres, and having a book cost of $1,031,000.00 or approximately $1.00 per acre, in the middle of page 7 it shows that this is made up of new leases, renewal payments, fee property, and this unaccounted for item to which I have already referred. That is in the case of the unoperated acreage and, as you will see, the total is 1,028,132.15 acres, at a book cost of $1,031,000.00. I want to call attention to the fact that the majority of these leases, as far as we could ascertain, are made for a ten year period. That means these leases have been renewed once since the original acquisition and, in a number of cases, twice. I will bring that out further later on. Of the $1,031,000.00 application to new leases, as such, there are 932,000 acres of these new leases in this period. During this period there was $340,000.00 paid for renewals of the acres, so it will be seen that the renewals greatly affect the average price of $1.00 to which I have already referred. There was $231,000.00 paid for fee property, and $141,000.00 for unaccounted [fol. 1033] for, on account of not being able to locate these vouchers in time to investigate them; but in the case of the unlocated vouchers you will note the valuation is not much different than in the case of the located ones, keeping in mind always there may be renewals in there as well as new acquisitions. In the case of new acres acquired, that is 932,000 acres, which we could localize the cost was $319,000.00, or an average of 34 cents per acre.

We made a complete analysis of these acquisitions by years and districts and the following summary which appears on page 8 is the result of that analysis.

In West Virginia from 1910 to 1914 there were acquired 307,000 acres, at an average cost of 27 cents per acre; from 1915 to 1920 there were acquired 320,000 acres, at an average cost of 50 cents per acre; from 1921 to 1923 there was acquired 62,000 acres, at an average cost of 83 cents per acre. The total for West Virginia during the whole period was 689,000 acres, at an average cost of 43 cents per acre. I might state here that the increase in the period of 1921 to 1923 over the period from 1915 to 1920 is more apparent than real. During that period the company acquired 70 acres in the Big Sandy [fol. 1034] District, for which they had to pay $25,000.00. As I understand the situation, the company thought that they had the leasehold rights on this 70 acre tract, while it was later discovered they only had a one-half interest, and somebody purchased the other one-half interest and on account of the territory being necessary to the company's business they had to pay this price.

Judge Ritz: At the rate of nearly $1,000.00 an acre?

A. Well, nearly $300.00 an acre. Mr. Whittier who made the investigation just informed me the other half interest had expired.

Mr. Diederich:

Q. In your investigation of the records of the company have you found any purchases of acreage or leases at any such price?

A. No, sir, that was extraordinary. I wouldn't say that was the only one, there might have been some isolated cases but I think

not of this magnitude; there couldn't have been, because the whole amount involved in new acquisitions is only approximately $350,000.00.

In unproven territory our study of these leaseholds, which I have stated involved 90 per cent of the new acquisitions, show that the bonus payment bear a definite relation to the matter of delay rentals, to which I shall refer later on. In unproven territory where the [fol. 1035] annual rental charges are $1.00 per acre, the bonus payment amounts to one quarterly rental or 25 cents per acre. In proven territory the annual rental charges range from $150.00 to $500.00 per well site, and one annual rental is paid as a bonus, as a rule. It is the practice of the company to allot 100 acres to a well site, although this basis varies considerably with the number of acres in the lease. In other words, you purchase a lease of sixty acres and drill a well on it and that goes into the operated property at sixty acres; if they purchase 500 acres, my understanding is that they allot 100 acres for the first well, etc. In Kentucky the price paid for territory is about 50 cents per acre per year in rentals with a bonus of 10 cents per acre.

Q. What is the percentage of the acreage owned by the company in Kentucky to the total acreage of the company?

A. You are referring to the unoperated acreage, I take it?

Q. Yes, sir.

A. In Kentucky, out of 735,000 acres of unoperated territory, the company owns 105,000 acres in Kentucky.

Q. I notice on Page 9 you have given a study of leases in un-[fol. 1036] operated territory, that are renewed for the nominal sum of $1.00 per acre.

A. Yes, sir. A large amount of the territory that there is only $1.00 bonus paid per acre.

Now, for the purpose of ascertaining the effect of these renewals and for the purpose of comparing the renewal cost in the case of the particular acreage, which was taken over in the original acquisitions, and the valuation placed upon same per acre, we make a study of all of the leases in the important districts, which were renewed in the period from 1922 to 1924, and we ascertained in the case of these renewals the original valuation which was placed upon this particular acreage by the company's officers in the beginning. The average cost per acre of the renewal in the period from 1910 to 1921, and the average cost of the renewal in the present period—that is, the period from 1922 to 1924. We took only the more important districts, like the Big Sandy and the Curtis, Geary, Smithfield, Spencer and Walton.

Q. And are those the operated districts of the company?

A. Well, in the case of Big Sandy and Geary that is particularly [fol. 1037] true; in the others, it is true to an extent—that is, certain portions of the other districts, without reference to the map, I should say certain portions were not apparently in the operated territory, but they are the more important producing territory. This statement shows, for instance, in the case of Big Sandy District that the original valuation placed upon this particular acreage was

$29.67, on the average. In 1910 to 1921 this acreage was renewed at 98 cents per acre, and in the period from 1922 to 1924 it was renewed at $4.50 per acre.

Q. As I understand, you have taken practically the same leases?

A. We have taken the same leases, but, for instance, you will notice a little difference in the acreage in the period from 1910 to 1921. That means there were a few leases that did not expire in that period,—a very few you can see, only 43 acres, but in the next period you will find the total acreage renewed was 5,460.67 acres.

Q. So that the renewals made in the period of 1922 to 1924 in the Big Sandy District reflect a price of $4.50 per acre?

[fol. 1038] A. Yes, sir. In the Curtis District the original valuation made to the acreage was $31.54; the renewal between 1910 and 1921 show an average of $1.29 per acre; the renewals between 1910 and 1924 show an average of $1.31 per acre, and you will notice in this case that the renewals in 1922 and 1924 correspond with it or cover the same number of acres as covered in the original valuation.

Q. Now, you have one of these sub-heads as shown on page 9—each one of these sub-heads are extended and the number of leases given in later exhibits, from pages 28 to 36?

A. Yes, sir.

Q. And show all the details?

A. Yes, sir. The other districts show about the same variations for the total leases, which were renewed in these particular districts. The average valuation given in the beginning was $38.37; the renewals from 1910 to 1921 were made at an average cost of 95 cents per acre, and the renewals between 1922 and 1924 were made at an average of $4.00 per acre.

Q. Now, Mr. Jirgal, you have under each of these sub-heads I find [fol. 1039] the total original valuation and they range all the way from $52.36 to $29.67 per acre. These are the valuations that, when originally made, are in the books and are today reflected by this so-called investment of approximately $6,900,000.00?

A. Yes, sir, they are reflected in that valuation and also the renewal of these leases. In other words, when a lease came due, in accordance with the contract, say in 1913, 1914 and 1915, the company did not relieve its accounts of the original valuation placed upon these leases, but it added to this original valuation the renewal cost.

Q. That is, the renewal cost as reflected between 1910 and 1921, and if that particular lease is again renewed for the second time it carries in the capital account the cost of the second and possibly the third renewal?

A. Yes, sir. It is not handled like physical property of the company. If they take out, for instance, a compressor station, they will relieve the property account of that.

Q. You understand these leases had expired before they were renewed?

A. Well, in the most cases it was about one year before they ex- [fol. 1040] pired.

Q. In other words, they start about a year before the lease expired to get the renewal?

A. Yes, sir. It is the same thing as if you took a compressor engine out sometime before its useful life had expired, for some practical reason you might be wanting to remodel the whole compressor station, and you figure you would have to take it out any way in a year, and you take it out a year before.

Q. That is the company's practice all the way through?

A. Yes, sir. I want to call attention to the fact that 14,079.02 acres out of the total of 14,953.60 acres have been renewed twice during this period.

Q. Now, just proceed with the next table here.

A. This next table merely shows that 83 per cent of the dollars in the unoperated acreage is in the particular districts which we investigated.

Q. And what are the totals as reflected from those computations?

A. Well, out of a total of $6,399,390.00 of unoperated acreage, book cost $5,310,936.00 is in these districts which we have investigated.

[fol. 1041] Q. And bearing a book value of what amount per acre?

A. $24.07. I want to bring out the fact that is the original valuation this $6,399,000.00, it isn't the present valuation.

Q. Mr. Jirgal, you were testifying as to what the facts were with reference to the greater part of the original valuation given to the unoperated acreage in the districts which you had analyzed and stated that they were the districts in which the greater portion of the gas comes from. I note you have set out in pages 10 and 11 your conclusions from the analysis of the acreage, which you have testified to, and I will not ask you to read those conclusions into the record, but have you any observations to make other than those set out in the report?

A. I have only this observation to make, that the indications are that the original cost of this acreage to the original company and predecessors combined is apparently considerably less than the book value on the books at the present time. In other words, if there is a finding to be made on the original cost you would have to give weight to this element.

[fol. 1042] I want to make another observation, and that is to the report written by Mr. Nease, the statistician for the West Virginia Commission, in connection with the 1917 case, and which gives a different interpretation and justifies the conclusion which I have drawn. This refers to the United States Natural Gas property. It says that "the total cost of this property to the United States Natural Gas Company did not exceed $2,200,000.00 or considerably less than the amount on the bonds assumed by the United Fuel Gas Company. The stock of the United States Natural Gas Company was practically all bonus stock and the cash consideration mentioned above probably was all profit to the stockholders." That is the $2,081,000.00, and it goes on and that is just the section pertinent here.

Q. On page 11, I note you have a study with reference to royalties and leaseholds expense in connection with the unoperated acreage.

A. Yes, sir, I think it is necessary to give some consideration to the matter of delay rentals, especially in view of the statement contained in the recent decision of the Supreme Court of Appeals of West Virginia in the last case. I think it is essential to understand in the beginning that what is on the books as representing book value [fol. 1043] of leaseholds is supposed to represent the first payment on the leasehold right. Now, then, if a well is not drilled at once, as usually the case, a delay rental is paid. If the well is drilled at once a royalty is paid. Now, both the rental and royalty are included in the operating expenses of the company and have been since the beginning. The carrying charge in rentals is therefore a part of the cost on which rates have been determined up to this time. Any expense attached to securing those leaseholds by the land department is also included in operating expenses. Since 1909 there have been included $658,080.00 of leasehold expense and $6,458,080.00 of rentals on unoperated acreage, making a total of $7,126,080.00.

Q. The first item is the expense of getting the leases?

A. Yes, sir.

Q. How is that first item of $658,080.00 treated on the books, as an operating expense or as an item of capital?

A. It is an operating expense, and the same is true of the rentals. What has been included is only that portion of the rentals and leaseholds expense that we find assignable to the gas end of the business. [fol. 1044] We have indicated that a part should have gone over to the oil business and that has not been included.

Q. So that from 1910 to 1923 there is an operating charge of $7,126,454.00 as rentals and leasehold expense?

A. Yes, sir. On a basis of 8 per cent the rentals would support a value of $6,880,000.00.

Q. For what year?

A. For 1923, and the combined items should support $7,360,000.00.

Q. And that would be added to the $30,000,000.00?

A. The observation there is merely that it would support a valuation of $6,880,000.00. In other words, by including it as operating expenses an equivalent of added value of $6,880,000.00 would accrue to the company.

Q. If you considered it as being capital instead of expense it would increase it to that extent, wouldn't it?

A. Yes, that is right but you would have a greater amount for return which would make the thing equal.

Q. Mr. Jirgal, have you made a study and analysis of the accounts of the company that relate to the demand for the gas of the company during the year 1923?

A. I have.

[fol. 1045] Q. Allocated to the several classes of consumers?

A. Yes, sir, I have.

Mr. Diederich. I will file this as Jirgal Exhibit No. 4.

Jirgal Exhibit No. 4.

(The same was filed, marked as above indicated, and is hereto appended.)

Q. Mr. Jirgal, what observations have you to make with reference to Exhibit No. 4?

A. I don't think it requires a great deal of explanation. It shows the basis we have used—the basis for allocating the transmission investment and expenses. The percentages are shown on page 2. It shows the contribution of each division of the company's business to the maximum demand of the system, and also the maximum daily demand, regardless of the system peak. That is on page 3. On page 5 shows the demand for each day of January, 1923, and in that month the 17th appears to have been the coldest day, and is also the day on which the maximum demand for the system occurred.

Q. What is your observation as to the weather on the 16th?

A. Well, just looking at this, without looking at the weather re- [fol. 1046] ports it would look as if the 16th was as cold as the 17th.

Q. How does it compare with the 15th?

A. The 15th, not as cold as the 16th.

Q. I will ask you if you have made in this hearing or previous hearing a study of the weather in Columbus and Cincinnati and what relation, if any, the condition, the atmospheric condition, is relative to the atmospheric condition in Charleston.

A. We did make a study of the temperature and conditions for each of the cold months in a study and survey of the principal divisions of the company's business. For instance, for the Louisville Gas & Electric Company at Louisville, for the Pittsburgh & West Virginia and Hope Natural Gas at Pittsburgh, as I remember, or in that neighborhood, the Ohio Fuel Supply Company for some points in Ohio, and for the Columbia Gas & Electric Company at Cincinnati, and, as I recall it, there is a certain diversity between these points. In other words, it seems it is colder west of there sooner than it is in West Virginia.

Q. I wish you would cast your eye over the amount of gas delivered, on page 5, and approximate the general average throughout the month, and state approximately the increased production delivered to the Columbia Gas & Electric Company on the 17th, which [fol. 1047] appears to be the peak day of the cold month.

A. The average is 38 million cubic feet for the Columbia Gas & Electric Company, and on the coldest day it took 45 million cubic feet.

Q. Now, take Charleston; what does the peak day for Charleston during the month of January show?

A. It was the 17th.

Q. And what is the average for the month?

A. 23,500,000 feet—for the peak day it was 28,400,000 feet.

Q. You have worked out this table for January, February and December?

A. Yes, sir, that is correct.

Q. That is to say January and February of 1923, and December of 1923?

A. Yes sir, the coldest day is indicated in red ink.

Judge Ritz:

Q. Is that the coldest day or is it the coldest day as reflected by the amount of gas sales?

A. It is the coldest day as taken from Mr. Uebelacker's exhibit I understand that corresponds to the statement he made of the [fol. 1048] coldest day.

Mr. Diederich:

Q. Mr. Jirgal, have you prepared as an exhibit a report to be filed as an exhibit that contains the detailed statements from the books for the year 1923, supporting the conclusions which you have already given?

A. Yes, sir, I have taken from the records of the company detailed statements which will support the figures I have introduced in evidence.

Mr. Diederich: I will ask that it be filed and made a part of the record and marked for identification "Jirgal Exhibit No. 5."

Jirgal Exhibit No. 5.

(The same was filed, marked as above indicated, and is hereto appended.)

Q. I notice that is just a compilation of figures, what observations have you to make with reference to this exhibit?

A. I don't think I have any observations to make, I will just introduce this to show that all of the figures I have taken in the preceding statements conform to what is reflected by the books, so that anybody can check the results without having to consult our working papers.

Q. Have you prepared from an analysis and study of the com- [fol. 1049] pany's books a report on the adjusted gas investment and operating profit from 1889 to December 31, 1923?

A. I have.

Mr. Diederich: I will ask that this be filed as Jirgal Exhibit No. 6.

Jirgal Exhibit No. 6.

(The same was filed, marked as above indicated and is hereto appended.)

Q. Will you please state for the record what the adjustments are as they appear on page 1?

A. Page 1 shows property account as it has been built up on the book cost basis from July 1, 1889, to December 31, 1923. You will note in the first column that the amount which I testified to was the book cost as per the books of the company, $27,511,797.04. That is the same amount I show in Exhibit No. 1 as the book cost distributed between years. To that book cost I have made by years the same adjustments to which I testified from Exhibit No. 1, with the exception of the adjustments on labor costs of drilling new wells

That does not affect the present cost of the company's property for the reason that the company had those adjustments on its own books, and I have just related it to the proper years. In other words, [fol. 1050] it gives the company credit for making the adjustment for the year in which it was done. It shows the adjusted book value of the company to be $26,288,911.83, as heretofore testified.

Q. What is the statement on page 2?

A. On page 2 I show the adjustments to the net earnings as per the books, all of which adjustments with the exception of the cost of drilling new wells and the abandoned leases charged to expense, or as explained this morning. Now, on the cost of drilling new wells, I have explained that the company made that themselves, and I have made it in the proper years. So far as the abandoned leases is concerned, the company charged abandoned leases to expenses until 1914. In 1916 and 1917 it charged these abandoned leases to an account called Depreciation Adjustment. From 1917 to date, it has charged these abandoned leases to Depreciation Reserve, or to Profit and Loss. The amount charged to Depreciation Reserve is that amount for which provision had been made in advance, and for the amount that the provision had not been made in advance, the charge is made to profit and loss. I will show how that is taken care of in a statement later on. This statement shows that the net earnings [fol. 1051] as adjusted for the period from July, 1909, to December, 1923, were $53,028,858.94. That is before depletion, depreciation and Federal income tax.

Q. This all relates to gas earnings?

A. Nothing but gas earnings, no oil, only the proportion of gasoline that has heretofore been included, no carbon black. One statement No. 3 I show the book cost as adjusted and as reflected in Exhibit No. 1. In the next column I show the average investment for the year. The third column, 4 per cent for working capital, which is approximately the figure which has been included by the engineers—slightly in excess of that. The fourth column is the average investment before allowing for accrued depreciation and depletion. Now, on the basis of the amount which I included in Exhibit No. 2 this morning, a depletion and depreciation reserve would be accumulated over this entire period, to the extent of $13,948,800.00. In other words, if the rate of depreciation and depletion which I introduced in Exhibit No. 2 this morning had been applied on the listed in the reserve, subject to deduction for retirements a sum equal books of the company since the beginning they would have accumulto $13,948,800.00. Now, the records of the company show that they [fol. 1052] have abandoned acreage, charged off property that is no longer in service, and in general, made retirements of property during this period equal to $2,950,222 which would mean that if the reserve had been accumulated at the rate indicated by Exhibit No. 2 the balance in the depreciation and depletion reserve on a cost basis, as of December 31st, 1923, would have amounted to $10,998,677.02. In other words, approximately $11,000,000.00. Now, if the average balance is deducted from the average investment, as shown in column

1, the depreciated book cost of the property as of December 31st, 1923, would be $16,468,544.00. I want to point out that the company did have on its books December 31st, 1923, as applicable to the Gas Department a reserve equivalent to $10,325,240.00, so they have got on their books—the company has on its books an amount which about approximates the amount I arrived at by this method, and that has been set up by them on a basis of the cost of the property. It does not include any depreciation of the appreciation which resulted by putting the appraisal on the books in 1918. Now, the statement on page 4 shows the adjusted net earnings before depreciation, depletion and Federal income tax, as already shown on page 2. I notice there is a difference there in the thousand column, but that can be rec-
[fol. 1053] onciled.

The depreciation and depletion which would be taken off would be $13,948,899.00, already testified to as regards to page 3. The Federal income tax during this period and by that I mean the normal Federal income tax, which is the amount held to be included in operating expenses, $1,229,656.00——

Q. What do you mean by "normal"?

A. That is exclusive of the excess profits tax. Before 1917, if there were any Federal income tax accounts, they were included in the regular tax accounts which are already a part of the operating expense. The total deductions for depreciation, depletion and Federal income taxes amounted to $15,178,555.00, leaving earnings available for return on investment of $37,980,903.00. Now, in connection with the question a short time ago, included in the operating expense is all the rentals applicable to the gas department, rentals on unoperated acreage.

Q. Do the books disclose the manner in which the depletion is arrived at or on what it is based?

A. On depletion only?

Q. Depletion.

[fol. 1054] A. The depletion, we tried to find out from the company the basis on which it was arrived at and we were directed to see Mr. Davis, and Mr. Davis apparently had a method which he felt he had evolved himself, and we didn't get the exact nature of it, but the amount we had in there is in excess of Mr. Davis' figures on the cost statement. That is true in 1923. I haven't gone back into years, but it is true in 1923. And on page 5 the question is answered, I think, as to whether the company has earned a return of any given percentage on its investment. In this statement, we have divided it into two sections. First, the section which uses the average investment depreciated as a basis for the calculation, and the second where no accrued depreciation and depletion is deducted from the book value at all. It is shown, in order that the Court may be informed as to what the application of the accrued depreciation and depletion would mean to the book cost. In other words, here you have a property that is subject to exhaustion because the life is determined by the natural gas fields, and in order to show the extent to which the application of depreciation and depletion costs would affect the books we have prepared this table. This table shows that

[fol. 1055] on a basis of 8 percent return, the company during its history has earned $20,000,000.00 in excess of that return in case the depreciated book cost is used as a basis, and $15,400,000.00 where the undepreciated average investment is used as a basis.

Q. That is over the 8 percent?

A. That is over the 8 percent. I have here a calculation showing the actual percentage. It shows that on the depreciated basis, that is the basis referred to in the first four columns of the exhibit, the company has earned 17.2 percent on its investment, and on the undepreciated basis they have earned 13.5 percent. These are the average percentages earned for the entire history of the company.

Q. You have made no effort to set up a rate base including working capital and going concern value, have you?

A. No, sir, I did not. But on the other hand, I didn't adjust for the fact that the original cost is probably less than the book value of the acreage, and I did not allow anything for accrued depreciation. As a matter of fact, up to 1917, the appraisal value of the property, exclusive of acreage, would not, in my opinion, be very much different than the original cost reflected by the books. As to the [fol. 1056] acreage, I wouldn't be qualified to testify what the value would be in each year, but we do know this, that the book value is considerably in excess of the original cost.

Q. The basis which you have included here shows that this capital account has each year as this goes on, is simply added to the original cost as appraised in 1909?

A. On acreage?

Q. Yes.

A. Yes, sir. I want to say that there isn't such a large factor in that account when you consider that the original book cost is $7,000,000.00, and the renewals are $340,000.00. The excess comes through the original valuation. I can also give you that. I have it worked out, the excess of a ten percent and twelve percent return.

Q. I wish you would give that.

A. In excess of ten percent return, on a basis of depreciated investment, the company has earned an excess of $15,900,000.00. On a basis of twelve percent return, the excess is $11,501,000.00. In the case of undepreciated investment the company has earned in excess of ten percent $9,800,000.00 and in excess of twelve percent return $4,200,000.00.

[fol. 1057] Q. What does page No. 6 relate to, Mr. Jirgal?

A. Page No. 6 is a comparison of balance sheets as of December 31st, 1920, right after the original properties were acquired, and December 31st, 1923. I have a statement here which I will introduce showing each item which makes it more readable than the information which this comparative balance sheet shows. Now, in the subsequent tables we have shown for every year since 1909 the earnings of the company by departments, the surplus account on page 8, the detailed operating expenses on page 12, the detailed property accounts by departments page 13, the details of the gas department property page 14, the cubic feet of gas sold every year of the

period. The latter statements are introduced for the purpose of supporting the conclusions reached in the first five or six tables.

Q. I wish you would state for the record what is indicated on page 14 of Exhibit No. 6 as to the amount of gas the United Fuel Gas Company sold to the Central Kentucky Natural Gas Company.

A. In what year?

Q. For the year 1923.

A. 1,535,000 M. cubic feet.

Q. The Louisville Gas & Electric Company for the same year.

[fol. 1058] A. 1,027,000 M. cubic feet.

Q. The Portsmouth Gas Company?

A. 1,277,000 M. cubic feet.

Q. The Montgomery Gas Company.

A. 129,000 M. cubic feet.

Q. What is the amount of gas sold in Kentucky during the year 1923?

A. 3,243,893 M. cubic feet.

Q. Mr. Jirgal, have you prepared a study and analysis showing the source and application of funds of the United Fuel Gas Company from January 1st, 1911, to December 31st, 1923?

A. I have.

Mr. Diederich: I will ask that it be filed as "Jirgal Exhibit No. 7."

Jirgal Exhibit No. 7.

(The same was filed, marked as above indicated, and is hereto appended.)

Q. I wish you would make such explanation of that exhibit as you may think proper.

A. This table is designed to show where the money has been gotten since 1911 and up to December 31st, 1923. I have tried to make [fol. 1059] this statement more simple than what would be shown by the comparison of balance sheets which I referred to a short while ago. It will be noted that the increase in the funded debt during that period, was $3,821,000.00. From that must be deducted the discount and expense in connection with the sale of bonds and any premium that is paid in retiring old issues—that is, like issues that were taken over from the United States Natural Gas Company, and calling of 7½ per cent bonds, etc. It shows that from this source there was secured not only $3,318,080.00. There was secured through earnings during this period $50,211,780.00. Now, those moneys were disposed of as follows: $21,000,000 was spent for gross additions to the property since that time; $1,400,000.00 was spent for investments, and by the way, these investments shown are in the company's own bonds for the sinking fund, a considerable portion of them. I think most of that item is that in fact; making $22,565,000.00, which is spent for capital purposes. $28,024,000.00 has been paid out in dividends, and the working capital, that is the net working capital, has been increased by $3,254,601.00. The significance of this source and application fund statement is to show the [fol. 1060] tendency of the company during all this period to finance

itself out of its surplus and reserve funds. I can probably give you approximately how this $22,000,000.00 of property was financed. About $3,000,000.00 came from bond money; the stockholders got a $4,000,000.00 stock dividend; and there is a balance of $13,000,000.00 in the depreciation reserve. I think there is about $2,000,000.00 in surplus, so if you add that together it shows how the company has financed all these additions and betterments since 1910. In other words, there has been $3,000,000.00 in new money put in in all that time.

Q. There has been only $3,000,000.00 in new money put into the property in that time?

A. Yes, sir.

Q. Now, Mr. Jirgal, have you made a study of the gasoline earnings of this company?

A. Yes, sir, I have.

Mr. Diederich. I will ask that this be filed as "Jirgal Exhibit No. 8."

Jirgal Exhibit No. 8.

(The same was filed, marked as above indicated, and is hereto appended.)

[fol. 1061] Now, Mr. Jirgal, what have you to say with reference to this exhibit?

A. This exhibit, or a similar one, except that it was carried to 1922, was introduced at the previous hearing before the West Virginia Commission, that is the hearing before the Commission in 1923. I have added on the year 1923, and have made some modifications. For instance, depreciation has been computed for purposes of this table as explained this morning, on a basis of the company's figure, 10 per cent, and there is included in there whatever gasoline comes from its subsidiaries. I think there is a little on Cabin Creek. The statement shows the net earnings of gasoline after deducting for depreciation and Federal income tax, and what fifty per cent would represent in dollars and in percentage on investment in gasoline equipment.

Q. Now, for instance, for 1923 I find in the lower corner, the last figures in the column, 80.40. What does that indicate?

A. That is the percentage of what fifty per cent of the gasoline line net earnings would represent on gasoline investment.

Q. That is to say, that 50 per cent of the net earnings on the [fol. 1062] total investment has brought about a return of 80.40 per cent?

A. Yes, sir. I might say that this is exclusive of tank car earnings. The figure I have used here is within $1,000.00 of Mr. Ushelacker's and I don't think there is any mistake on that 50 per cent.

Q. Mr. Jirgal, what have you to say with reference to making the classification for depletion and a separate classification for depletion and depreciation and return?

A. Well, in my opinion, it would seem to me that you would have

to make a separate allowance for depreciation and depletion and one for return, because there are a considerable number of elements entering into the cost of reproduction of the property or the original cost, which are not depletable or depreciable. For instance, going concern value, would not be, and working capital would not be. Your rights in fee land wouldn't be. The salvage in property wouldn't be, so that it would seem to me that the thing to do would be to relate the elements for depreciation and depletion to the depreciable property, and to compute the return on the fair value, whatever it may be.

Q. Does that mean the net result of a particular study in this [fol. 1053] case?

A. In this case the figures for depreciation and depletion amount to 5.3 per cent of the total property, and on that basis, that is on the book cost, it would show a reserve of $11,000,000.00, which would represent 24 per cent of investment before being depleted and depreciated. That would be true on the reproduction cost, the same as on original cost and would follow the same principle.

In my opinion the allowance for depletion and depreciation should be based on the cost of the property rather than the cost of reproduction, for the following reasons: First, the purpose of a depletion and depreciation reserve is to keep the investment intact and not return to the investor the cost of reproduction at any given moment. There must be some common basis for computing profit in all industries, including public utilities, otherwise all figures on cost production would be meaningless. The original cost or equivalent has been the basis adopted for depletion and depreciation in accounting for profit; similarly, when the United Fuel Gas Company determines its profit available for dividends, at present as well as in the past, it considers depreciation and depletion at cost, and whatever remains is deemed [fol. 1054] applicable to such dividends.

I might say the company at the present time has an appreciation on its books, which is the same except in the matter of degree, as the appreciation which it is claiming in its cost of reproduction study by Mr. Uebelacker. The company, on its books, at the present time, has an appraised value for the acreage, per its books, of $42,000,000.00, and yet the depletion of that $42,000,000.00 has absolutely no effect on the amount which it computes as profit before it declares its dividends. The depletion of this amount is charged to an account which was set up on the books at the same time as appreciation, due to the added value which came through this appraisal. Now, if the company is not going to have its profit determined on the basis of the depreciation and depletion that it claims here, then, it means in effect that whatever excess the company gets in the way of depreciation and depletion on the cost of reproduction basis over what it would get on the original cost basis is nothing more than additional return to it. In other words, if you fix the rates of the United Fuel Gas Company on the basis of depleting its property and depreciating it on the cost of reproduction basis, and the company follows the method of accounting which it now has in vogue that difference to [fol. 1055] which I have referred will be accounted for by them as

profit and will be available for interest and dividend payments. It will be nothing more than additional return, over and above what you figure is a fair return upon its investment.

Now, Mr. Uebelacker, for instance, finds in his rate approximately 13 to 14 cents as the amount that is applicable to depreciation and depletion on a cost of reproduction basis, and if the cost records show that only 3 or 4 cents is applicable for this purpose, you have 10 cents in the rate which can find its way in the books in no other way than in the profit and loss account as dividends. In other words, on the basis of 46 billion cubic feet of sales, that would mean an additional profit to the United Fuel Gas Company of $4,600,000.00; in the case of West Virginia it will mean a profit of over one million dollars. Now, the West Virginia classification of accounts provides that natural gas companies shall provide for depreciation and depletion on the basis of the original money cost. In substantiation of that, I will read from the classification. In the case of depreciation the classification says:

(Reading:) "In determining its rate of depreciation the utility [fol. 1096] shall, in the case of those structures and items of equipment that can be satisfactorily individualized, provide for each such structure and item of equipment an amount which will through regular accumulation insure at the time such structure or item of equipment goes out of service a reserve therefor equal to the original money cost thereof less salvage recovered thereon. In the case of those structures and items of equipment that cannot be satisfactorily individualized the utility shall keep such structures and equipment in efficient operating condition through repairs and shall treat all renewals or replacements of parts thereof as repairs."

In the case of leaseholds it has a provision that is similar, and that by the way comes down to the value of the leaseholds, the matter under discussion. This is under the caption of "Amortization of Other Capital Reserve." (Reading:) "Credit to this account and charge to "477 Amortization of franchises, patent rights and licenses." That is the name of the account. "478 Amortization of natural gas rights and gas leases," which is the thing we are discussing, and (Reading:) "669 Amortization of interest in landed capital." "accounts those amounts which, through regular application, will provide at the expiration of the lives of the utility's limited [fol. 1097] franchises, patent rights and licenses, limited rights of way, and leaseholds, a reserve equal to their original money cost."

In the reserves there is a similar section. I don't think it is necessary to read that. Under leasehold, on page 49 of the classification, it provides——

Judge Ritz (interrupting):

Q What is that book you are reading?

A The classification of accounts for natural gas companies in West Virginia.

Q Who is it by?

A The Public Service Commission of West Virginia.

Q. Don't you think they can read it?
A. Yes, sir.

Mr. Diederich: Go ahead, Mr. Jirgal.

A. In the accounting practice of the company, and of all companies, the difference between what a thing cost when it was originally put in and what it cost to replace it is capitalized on the books, so that the company loses nothing if the original money cost is used as the basis for depletion and depreciation, and that is also provided for in the classification.
[fol. 1068] Now, the practice of applying depreciation and depletion on cost applies to the commercial field generally. Public utility mortgages are drawn up on that basis; for instance, here is a typical extract from the many I know of: The company may withdraw bonds on the excess, if any, of any expenditures for renewals and replacements over the original cost of the fair value, as the case may be, of the property so renewed or replaced, and in the case of fair value in that instance, it's the fair value at the time when the property is placed in service—not the fair value when it is taken out. The same principle is true in every walk of life. If I borrowed from you a thousand dollars in 1910 and paid you back or had to pay you back, under the conditions of loan, in 1920, I get a one hundred cent dollar in 1910 from you, and give you back probably a fifty cent dollar in 1920, but that is due to the fact we have got an inflexible standard of value, and the debtor suffers in the one case and the creditor in another, but there is nothing in the commercial field, generally, which safeguards that; it applies to public utilities as well as anyone else, and the only way it can ever be stabilized is to change the standard of value. That is to say, [fol. 1069] you would have to put more gold in the dollar to represent the inflation or deflation due to price changes. Now, I want to say that the principle of applying depreciation and depletion on cost of reproduction is impracticable. You can't work it on your books and you can't work it, in justice to the consumers nor to the company, because in one case you would suffer and in another case they might suffer. In the first place, you would have to write the cost of reproduction on the books instead of the book value; first, you have to do that in order to work that on the books, and in the second place, you have to adjust the book cost each year because of the changes in prices, and you have to adjust your depreciation and depletion reserve as well; in the third place, the additions in each year would have to be more or less uniform, as far as the amount going into the capital account each year of the increasing price period and each year of the decreasing price period. In the fourth place, you can't account for profits the way you do now. If the Commission determines rates which will cover depreciation and depletion on the cost of reproduction, you would have to retire your property on the cost of reproduction instead of the original cost as you are doing at present; in [fol. 1070] the fifth place, in order that no injustice should be done or involved by the application of this method, no profit could

accrue to the company through the application of the cost of reproduction method for determining depreciation and depletion.

Now, that is the only way you can allow for depreciation and depletion on the cost of reproduction basis, and it would be an impracticable way of going at it. And that is the reason why the accounting rules are as they are and, after all the accounting are the rules that determine profit. The accountants have adopted the cost basis, because it is inflexible, and determines your profit at all times on the same basis. Every time you get an increase in rates on this principle, you don't change your books to the valuation prescribed by the Commission, but you treat it on a cost basis, and that is why you have got to use costs in determing depreciation and depletion for rate purposes. Depreciation and depletion has to do with what the cost of the property is, and has nothing to do with its value.

Q Did you make any distinction between depreciation and depletion?

A No, sir, for this reason. That your investment in the depleted [fol. 1071] property is the thing that has to be kept intact, and that has to be done just the same as any other physical item.

Q Does that cover that?

A Just a minute. The reason for that, is simply this, that the prices change and if you were to follow price changes you have to change your books once a year, and that wouldn't be enough; you would have to change them every month, especially as to the price changes as they have been since 1913. I don't want to be understood that original cost is the rate making basis and the law, is, I think—I can't say exactly what the law is—but you have to consider all elements of value, one of which is the cost of reproduction, and the other is the original cost; another is cost of reproduction depreciated—the original cost depreciated; another is the outstanding securities and whatever are the relevant elements of value; I don't want to be understood to mean that the cost of reproduction is the sole evidence of value, nor necessarily the predominant one, but if you consider cost of reproduction in your rate making base and keep the investment intact by providing for depreciation and depletion at cost. You have by that measure done what the regulation of Public Utility rates is attempting to do, and that is [fol. 1072] to keep the flow of capital in industry at the price of capital at the time you are making the determination. In other words, if you have a fifty cent dollar in 1920, and you have got to put in your additions on the basis of that fifty cent dollar, and you have got to put in subsequent amounts for additions in that price period, that factor would have to be recognized and it is recognized in the basis for your return, but so far as keeping your investment intact it doesn't, for this reason, you aren't paid back your fifty cent dollar on this accounting right now—you couldn't be because in the practicable application you could just as well say you ought to be returned your one hundred cent dollar in 1909; your property is still useable and will be used, according to the estimates, until 1940; well, by 1940 you have returned to you through

the application of the cost principle of depletion and depreciation the dollars you put in there and that has no reference at all to price changes.

Q. Nor to rate of return?

A. Yes, sir.

Q. In other words, as I understand it, the observations you have just made do not apply to what basis of value is fixed, sofar as [fol. 1073] the return is concerned—the rate of return?

A. No, sir.

Q. But that it simply relates to the question of depletion and depreciation of returning the capital that was originally put into the property?

A. Yes, sir, you return to it—to a public utility—like you would anyone else. Now, the United Fuel Gas Company has got a maturing bond issue in 1936. They are not going to pay to the people that put their money into the United Fuel Gas Company bonds any other dollar, with any more purchasing power, than that that exists in 1936. If they put in fifty cent dollars, they may get that fifty cent dollar back or they may get a hundred cent dollar. Your standard of value, or the gold standard, means that if I give you a fifty cent dollar in 1920—a gold dollar—I gave you a fifty cent dollar, it wouldn't make any difference whether it was a silver or a gold dollar.

Judge Ritz

Q. Mr. Jurgal, let us take this illustration. Suppose "A" last year bought a tract of favorable gas leases, under, we will say, favorable circumstances. And we will say this year he decides to go into [fol. 1074] the utility business; we will say those leases cost him $5,000.00; he is still in the utility business, and he is entitled to depreciation and depletion applied to that $5,000.00 investment—that is, when it is dedicated to the public use. Now, then, instead of "A" going into that business this year, we will say that "B" comes along and decides that he wants to go into the business; "A" declines and "B" starts in the utility business and pays the fair market price of $50,000.00 for the leases; then "B" would be entitled to depreciation and depletion on $50,000.00 while "A" would only be entitled to depreciation and depletion on $5,000.00, the original cost of them—the transfer of that property then changed the amount to which your depreciation and depletion applies, is that not true?

A. Yes, sir, it's the money cost when it is put in.

Mr. Diederich

Q. Do you know of any ruling, any regulation or any practices that recognizes any other principle, other than that of depleting on the money cost of the property?

A. No, sir. For instance, in these mortgages I talked about it's cost that determines what your bondable construction shall be, but [fol. 1075] if as Judge Ritz has stated there is a question between the $5,000.00 and $50,000.00, the question would arise immediately

as to what the fair value to the public utility at the time it was acquired of this particular land would be. That is one reason why that fair value clause is always put in mortgages—because they want to prevent the transfer of property in excess of the value at the particular time that it is mortgaged, and they always say whichever is less of the two.

Q. Now, Mr. Jirgal, the question I started to ask you a minute ago was that Mr. Uebelacker's exhibit shows a book cost to the company of approximately $32,000,000.00, whereas yours is approximately $26,000,000.00. Can you account for the difference?

A. If I have that statement I think I can. (Statement handed to witness.) Did you want to know, Mr. Diedrich, what the differences were and also the reasons for them?

Q. Yes, sir.

A. Well, practically the only difference between the original cost or the historical cost found by Mr. Uebelacker and the amount shown by me this morning as the book cost is the matter of over- [fol. 1076] heads. Now, the company since the beginning has not charged onto its books or had charged into its books practically nothing for what is commonly termed overheads; that is to say, engineering, supervision, interest during construction, taxes and contingencies, etc. In order that this method of placing these overheads in the book cost may be fairly applied, you would have to credit the operating expenses for the year 1923 for an equivalent percentage of overheads. Now, in 1923 there were approximately $1,000,000.00 of additions, which would mean that on the basis of overheads, averaging between 21½ and 26 percent, you would have to deduct from the operating expenses some $210,000.00 to $260,000.00. In other words, you can't create book cost by merely making application of overhead principles, the money can come from only the company's treasury as a whole; it has to get it through the rates or through financing, and if you take it out of one pocket you have to put it in another pocket. What you add to the property account as overheads you have to add back to the other pocket which represents operations—in other words, you must increase the net earnings available for return.

I want to make this observation on the overheads. Mr. Ueb- [fol. 1077] lacker—or before I come to that—in the application of the overhead principle to book cost, you can not take as high overheads as you do in determining the cost of reproduction. In the first place no company charges on its books for taxes during construction; those are all absorbed in the operations; you have no such things as contingencies and omissions, because every dollar spent is accounted for; you have only one-half the interest application, because the property is in use only one-half the time, on the average. Now, those items are a considerable amount. In addition, there is engineering and supervision which is an allocated item. Usually the engineering department functions for both the operating department and for the construction department.

I want now to come to the most important item, and that is the cost of financing. In no company's books is that accounted for as

construction costs; that is accounted for as nothing more than bond discount and expense. It is the difference between what the investor pays and what the company gets from its securities. It is part of the difference between par value and the amount which the company gets from its securities.

Now, discount is sometimes charged to capital in some cases but it [fol. 1078] is never allowed, so far as I know, except in the initial stage of construction in a rate proceeding. The usual rule is to amortize discount, both that part which represents the difference between par value and the amount paid by the investor, and the difference between the amount paid by the investor and that which the utility gets and where it is not done the proper principle is not applied. In other words, this difference of four points, while it is a fair representation of what the difference between what the bonds sell to the investor for and what the utility gets, it cannot be added to the historical cost of the property. The application of the principle which I have just mentioned would greatly reduce the overhead, so far as the original cost or historical cost is concerned, and would still bring in the application, that whatever was charged to construction of account of overheads would have to, on a percentage basis, be applied to additions which are made each year to the property and credited to the operating expenses, thus increasing the net earnings by the same amount.

Q. Mr. Jirgal, from your experience in the accounting business, what would you say as to the overheads of this company, as charged, as reflected, contrasted with those of other companies you are acquainted with?

[fol. 1079] A. Well, the investigations which we have made, and on large properties, show that overhead is considerably less than that put in here; that is on the original cost basis. I am not passing on the propriety of the overheads for the reproduction cost.

Q. Would the largeness of the properties,—the size of the properties, in any way affect the percentage of overheads?

A. Well, usually, when the overheads are fairly applied, the larger properties have larger overheads—I mean the percentage of overheads; at least that is our experience.

Q. Now, Mr. Jirgal, have you made a study of the prices which the United Fuel Gas Company pays for gas in the field during the years 1923 and 1924?

A. Well, I think there is an exhibit showing the average cost in one of my other exhibits, and I have on page 8 of Exhibit 5 shown the average cost of gas bought in the field for the years 1922 and 1923. Now, I have somewhere in my working papers the contracts which have been made in 1923 and 1924. I have here an extract from some of the contracts that have been made in that period.

Q. I understand that already on the table you have made you [fol. 1080] have included in Exhibit No. 5 a list of what the gas—of all the gas purchased by the United Fuel Gas Company from companies operating in their fields?

A. Yes, sir.

Q. Now, will you please give us the amount which the United

Fuel Gas Company has within the last two years agreed to pay for gas purchased in the field from producers of gas?

A. I will. I might say that this was carried up—this record was only carried up to the time our men originally left the field, I think we only have them up to July, 1924, so if any contracts have been made since this they would have to come in, too.

The first contract is the Falling Rock Cannell Coal Company contract. I think that has already been referred to here. That is at 8½ cents per thousand cubic feet. It has this rider in it, that if the United Fuel Gas Company obtains an increase in retail domestic rates in Charleston, above 25 cents, one-third of such increase per thousand cubic feet shall be paid to the Coal Company. In other words, it is a variable contract, depending on the rates in Charleston.

There is a contract with the Kanawha City Oil & Gas Company, [fol. 1081] which has the same rider, and which provides for a basic rate of 8 cents per thousand cubic feet. I might say in the case of the Kanawha City Oil & Gas Company contract, the gasoline goes to the United Fuel Gas Company.

The Markham Oil & Gas Company contract, dated June 4, 1924, the price is 6 cents per thousand cubic feet, as long as the price of 15 cents to the Louisville Gas & Electric Company obtains. That is a field south of here apparently, and when the price goes over fifteen cents they get two-fifths of the excess.

There is a contract with A. E. Taylor, five years from December 15th, 1923. The price is 8 cents per thousand cubic feet as a basic rate, and one-third of the increase of domestic rate at Charleston.

Q. What about the gasoline?

A. The gasoline not to be extracted. There is a contract with Barnhart and Taylor, from November 15th, 1922. It runs until no longer gas is produced in paying quantities, the price is 7 cents per thousand, with an increase after two years in proportion to the increase in rates which the company receives for its gas.

Q. How about the gasoline?

[fol. 1082] A. I don't have it in that case. I can find that out. There is the contract with E. G. Summers, the contract is for 8 cents, plus one-third of the increase; eight cents is the basic rate, plus one-third of the increase in domestic rates received by the United Fuel Gas Company, the gasoline not to be extracted in that case by the seller.

Here is a contract with the Poca Fork Oil Company, for five years from July 9th, 1924; the basic price is 8 cents, with the rider of one-third, dependent upon the domestic rate, the gasoline is not to be extracted by the seller.

There is a contract with Jeff Miller, et als., two years from June 27th, 1923, at the price of 7 cents for the first year and 8 cents for the second year, with no rider.

There is a contract with Morley Oil & Gas Company, for five years from November 14th, 1923; the basic rate is 8 cents per thousand,

the gasoline not to be extracted by the seller, and one-third of any increase in the domestic rate shall go to the owner of the lease.

Q. Mr. Jirgal, with reference to the Uebelacker study and the historical cost of the property, and the units he adopts with reference to the physical property of the company, what were they?

[fol. 1083] A. He used the cost at the time, approximately at the time, when the property was put in.

Q. And what figure did he use with reference to the acreage?

A. With reference to the acreage, he took the book cost of the acreage. In other words, the same principle is not followed in the acreage as was followed on the rest of the report. In order to ascertain the historical cost of the acreage he would have to go back to when it was bought.

Q. What have you to say as to the reasonableness of the rates of the company, as adopted by them, as being reasonable or unreasonable?

Judge Ritz: We object.

Mr. Diederich:

Q. The rates of depreciation and depletion?

A. Of course there are several factors to consider in that connection. The company on its depreciation rate has apparently followed the straight line method, without any credit being given to the reserve for any interest accumulations. It has also made no specific allowance, so far as we could ascertain, for salvage value and the cost of the removals of the salvage, in the case of this company, are included in operating expenses, and the company includes in its [fol. 1084] repair accounts what are classed as minor renewals, all of which elements would serve to make the rate rather less than it would be if all of these elements weren't present, and, as I have already shown, the rate which we have used is higher than that of the company and gives a reserve as of December 31, 1923, of $11,000,000.00, which is approximately 42 percent of the book cost of the property as adjusted by us.

Q. Mr. Jirgal, have you filed any exhibit or statement showing what the rate of return based on 1923 will be, after allowing for depletion and depreciation, and showing what it is?

A. On the Exhibit No. 2, I have shown the net earnings available for return, both on the company's basis of depletion and depreciation, and have also shown the allowance for depletion and depreciation as used in our exhibits.

Q. That is at about 5½ percent, isn't it?

A. It is somewhat over 5. Five point three I think, the net available on the latter basis would return only $5,105,000.00.

Q. That is net after allowing for everything in the way of operating expenses?

[fol. 1085] A. Yes, sir.

Q. And on what sum, if you know, would that be a return of, say 8 percent?

A. That would be a return on about $63,700,000.00.

Q. Mr. Jirgal, approximately what life do you give the plant in your depreciation theory?

A. I have taken the same rate of depreciation as the company uses in its books for that part of the property which is depreciable, and for the acreage I have added back to the present book value all of the acreage they have abandoned since the beginning, and divided that total by the amount of gas already taken out of the field, plus the estimate of Mr. Davis of what is in there, and thus arrived at an average depletion per thousand cubic feet which is somewhat higher than the company uses, and I used the one arrived at by me instead.

I just proceeded to this extent, that the depreciable property I have given the rate which is applicable to less than a twenty year life. For instance, the record isn't clear, so far as I can see, that the transmission system wouldn't last until the end of the field. If testimony should be introduced that it wouldn't last for eighteen years, why then the rates might have to be increased a little, for the replacements [fol. 1086] that would have to be made, but it is already shown in the record that on a basis of Mr. Davis' exhibit the rate of production or rate of sale, at the present time, cannot be maintained any longer than eighteen years, so it doesn't look as if the major part of the transmission system would have to be replaced again before the field is exhausted. You may have a situation here that the Louisville Gas & Electric Company or the Central Kentucky Gas Company will not live out even the eighteen years. I don't know what the premise of the company is on that, but in that case their investment will go out during that period, and if the existing transmission system cost is handled on the basis I have handled it you would have the dollars you have put into it when it does go out.

Q. You have been asked a question relative to the application of depreciation to actual capital invested. Have you anything further to add to that?

A. A question has been brought up as to why there should be a difference in treatment of, for instance, if "A" buys some acreage for $5,000.00 and does not go into the public utility business, and "B" acquires the same acreage and pays $50,000.00 for it, and does go [fol. 1087] into the public utility business. Assuming that "A" paid the fair price of $5,000.00, in your case whatever the company pays for the property, the original fair cash cost is the amount subject to depreciation and depletion. What I was trying to bring out is that the purpose of depreciation and depletion reserve is not for the purpose of giving a profit to the utility. If you provide for that piece of land or acreage at the rate which will eliminate $50,000.00 from your capital account at the end of the period, and $50,000.00 is found to be the fair cash original cost, the public doesn't suffer at all, but where the discussion comes in here is that this company takes out of its property account, not the fair value which the Commission found, but it takes out the book cost, and the difference between that rate, or that amount of depletion, based on the book cost, and the value the Commission allows, cannot be accounted for on the books as anything but profit, and that is what has been done in this

case. Assume that you give an allowance of 16½ percent for depletion, depreciation and return, and assume that eight percent is for return, you have 8½ percent for depreciation and depletion. Now, what does the company do with that? It doesn't set that up [fol. 1088] on its books. It provides for depreciation and depletion regardless of allowances made by the Commission, and in dollars and cents, it means this, that in the first case, where the $30,000,000.00 valuation was set up, I think the books will show that the original cost of the physical property was given as $22,000,000.00 or $23,000,000.00. Now, assuming that there are two or three million dollars of non-depreciable property, like, for instance, the salvage in the system, the land, etc., and assuming further, that that will bring it down to $20,000,000.00, you have then given the utility 8½ per cent of $10,000,000.00 of non-depreciable property, and in accounting, the company gets not only the 8 percent on $30,000,000.00 or $2,400,000.00, but it gets also 8½ percent on $10,000,000.00 of undepreciable property, which will be $870,000.00 additional return. Now, if the company relieves its property account of a cost which corresponds to the basis on which depreciation and depletion is allowed, then it gains no profit on its transaction, but if there is no gain to the company in that transaction, it doesn't seem to me there would be any advantage in raising rates just to give a depreciation and depletion allowance on an amount that doesn't represent investment in the property.

[fol. 1089] Judge Ritz: We are talking about depletion, not depreciation. Suppose "A" had gone into the utility business, he would have had a return at the time "B" did. On your theory he would have had to return $7,000.00 undepreciated, but what about "A"?

A. In both cases it ought to be the fair cash original cost at the time the property came into use.

Judge Ritz: The markets have been known to change very rapidly, speaking of fair cash value.—All right, let it go.

A. I wanted to make it clear that there should be no difference in treatment of depreciation and depletion.

Mr. Diederich:

Q. Mr. Jirgal, what, in your judgment, are the reasons for the division of profit between the gasoline company and the applicant, and the application of one-half of them to the operating expenses?

A. The gasoline business is one that seems to me to call for an allocation of net profits. In the first place, there is a joint use of facilities. The gas is taken out of the ground from acreage that costs the company money; the gas is transmitted or gas is also taken out of the ground through wells that also calls for an investment; the gas used is piped to the gasoline station; the acreage which is [fol. 1090] called upon to yield the gas costs the company considerable every year in rentals, for which the Gas Department is assessed; royalties are paid; it costs something to operate and build a transmission system, and that would seem to call for a division of those

items between the two projects. The exact amount of the money is rather difficult to ascertain, but some division it would appear would have to be made. The cost accounting principle is not to consider one of two major products as a residual product, and the other as bearing all the costs. Some fair division has to be made between the two major products. Now, then, looking at it from the purely economical side, you have this situation, that from 90 to 95 per cent and possibly more of the gasoline in this country is manufactured from the crude oil refining process. That means that the crude oil refinery will, in a fair competitive market, determine the price because it will be that cost of production which will determine the price on which they can sell their gasoline at a profit. Now, that makes it a question of relative costs, between the natural gas gasoline process or the natural gas extraction process and the crude oil process, and as long as there is a differential the natural gas producers will [fol. 1091] get the difference in profit. Now, you are giving him a very large differential advantage, when you do not assign any costs at all for the raw product he uses in the manufacture and that is natural gas. Now, in the crude oil process, as I understand it, there are a great many economies being perfected, and the cracking process I understand is being made more efficient. That means that the margin between the natural gas extraction process and the crude oil process will decrease.

Q. Is getting smaller?

A. Will decrease if the natural gas process does not also become more efficient. Now, the records of the company show, as I recall them, that each year there is a gain in the amount or yield per thousand feet, which goes through the gasoline extracting station. So it shows that that method is becoming more efficient but it is a question as to which process is becoming relatively more efficient. Now, anyone going into the question of extraction from natural gas would therefore be willing to pay the natural gas producer that price which would allow him to meet the crude oil refiners' price. In other words, he would pay that much more for the natural gas rights or for the right to extract from natural gas the amount repre- [fol. 1092] sented by the difference in his cost of production and the cost of production by the crude oil refiner. He wouldn't pay absolutely that differential, because he would be taking all the risks of the manufacture and he would be taking the risks over a series of years, and of course he would want some leeway because he wouldn't want to take all the risks and get nothing of the gain going into it; but that would be the principle that would determine how much he would pay for that right. Now, in the previous hearing I have attempted to show, from figures of the Federal Trade Commission that that right would be more valuable than the fifty per cent. Whether or not those figures would obtain at this time, I am not able to say, but the principle would govern just the same, and if there is no differential there would be nothing to split. I think the question is merely a question of determining a fair basis for paying for the right or privilege of extraction to the natural gas producer.

Mr. Diederich. I believe that is all, although we may have occasion to show by Mr. Jirgal some facts that have to do with other information.

[fol. 1093] Cross-examination.

By Judge Ritz:

Q. You have referred in your statement and in your testimony to the Big Sandy District or Big Sandy field. I will ask you to state if this reference is to the Big Sandy field in Kanawha County, West Virginia?

A. It is.

Q. And not to any Big Sandy field in the State of Kentucky?

A. That is correct.

Q. You stated I believe that 90 to 95 per cent of the gasoline consumed would be the production by the crude oil process?

A. Approximately that, I think.

Q. Where did you get those figures?

A. From the Geological Survey.

Q. You don't know whether it is 90 or 95 per cent, do you?

A. The last time I looked it up it was 90 per cent, and I got the figures recently and it occurs to me that it has gone up. Naturally that would be the case, or would tend to be the case, because most of the natural gas that is used in the extraction privilege—the production cannot be increased when you use the gas for public utility [fol. 1094] purposes, because the consumption determines the rate at which you are going to take the gas out of the wells, and that remains more or less stationary.

Q. That is an argument, isn't it? You don't know where you got those figures except that they came from the Geological Survey?

A. Well, from the Bureau of Mines——

Q. You have also said that the profit in the value of the right was the difference in the cost of production from natural gas and crude oil, is that correct?

A. That is the basis for determining the value of the extraction privilege. That can't be done at any certain moment, but over a period of years, over which an investment will run.

Q. Take the situation over the last four or five years——

A. Yes, sir.

Q. If an investor took a view of the situation in the gasoline business, in the production of gasoline from natural gas, over the last four or five years, he would come to the conclusion there wouldn't be any differential, wouldn't he?

[fol. 1095] A. He might, and again he might assume that it would return.

Q. Assuming that the same condition today would go on for the next year, there wouldn't be any, would there?

A. I couldn't say definitely, but just from the mechanical calculation I would say it is better today.

Q. If this trend continues at the end of next year there would be no differential at all?

A. I would just say that is mechanically true; I can't say whether it would return, without investigations as to the whole situation.

Q. You do know that the production of gasoline from crude oil has been wonderfully improved in the last four years, don't you?

A. So I understand.

Q. And that four years ago there was a comparatively small per cent of gas which was turned into gasoline from this extraction process?

A. I understand that the cracking process has resulted in getting more gasoline.

Q. And isn't it a matter of fact that the extraction from crude oil results in getting more than twice as much gasoline as was obtained a few years ago?

[fol. 1696] A. I wouldn't know the figures on that.

Q. Now, going a little further, Mr. Jirgal, you know that right at this time, do you not, that the production of gasoline from natural gas is not a profitable operation, don't you?

A. Your last statement shows some profit. You understand, Judge Ritz, that I haven't been able to get into your figures down to the last minute, and in order to get into the problem of extraction, whether it is profitable or not, you would have to determine, like any other investor, would, as to what were the causes for the low prices at the present time.

Q. Assume the price of gasoline to be six and one-half cents to the producing company, would that be a profitable operation or not?

A. I wouldn't know off hand; I would have to make some computations on it; it would appear that it wouldn't, but I wouldn't say it wouldn't be.

Q. If the operation of the Virginian Gasoline & Oil Company produces a profit of less than $1,000.00 in a month, without any return on the investment, would you consider that profitable?

A. It wouldn't be for that month but you don't gauge profit that [fol. 1697] way. You take it over a series of years.

Q. And if that was a pretty fair average over a period of four years you would conclude that it was a pretty reliable figure?

A. I don't think I would, because it is just like the other industries that have gone through a period of deflation. For instance, the rubber industry has gone down for several years, and the sugar industry has gone down since 1920, but that doesn't mean that sugar refining isn't going to be profitable. That is the thing you have got to look at.

Q. I understood that, but you take an article like sugar whose price isn't regulated by the price of something else, like gasoline——

A. Sure, you do, you have cane sugar and beet sugar——

Q. You have said that the price of gasoline is regulated by the price of gasoline produced from crude oil?

A. That is true, yes, sir.

Q. If it cost twice as much to produce—Now, if you find from the *cause* of distilling or any other process there has been a uniform tendency downward in the price of gasoline and you find upon examination that the production of gasoline from crude oil has been

[fol. 1098] so increased that there is now being extracted from the oil production twice as much as there was four years ago by improvement in the process, wouldn't you be justified in coming to the conclusion and wouldn't you come to the conclusion that natural gas production of gasoline had ceased to be a profitable proposition?

A. Just for that time, yes. But I wouldn't come to the conclusion that forever natural gas gasoline extraction process would have to be discarded.

Q. Did you say that you examined property of this kind with the idea of advising possible purchasers?

A. For public utilities, generally, yes, sir.

Q. Now, suppose you had a client who had suggested that he was considering buying gasoline rights of the Virginian Gasoline & Oil Company, and that he would ask you to examine the records of that company to determine whether or not he should make the purchase, and you should examine the records and find the first year large profits, the second year small profit, and the next year small profits, and the fourth year still smaller profits, and that at the same rate on the fifth year no profits. And then your investigation led you to inquire what was the cause of the decrease, [fol. 1099] notwithstanding the quantity of gasoline produced had remained practically the same, and you found that the price of the product was controlled by the price of gasoline produced from crude oil and upon investigating that you found the quantity of gasoline produced from a given quantity of crude oil had been increased, would you advise the purchase of that property?

A. I wouldn't give any advice until I knew what the cause of the condition was. I would make up my mind as to whether that trend was definitely downward, and that there wouldn't be any differential between the crude oil price and the natural gas price.

Q. What would you say on that statement of facts I have given you?

A. We do know that the oil companies are not making money——

Q. We are concerned about gas companies in this proceeding. Wouldn't you come to the conclusion that if they were producing twice as much gasoline as they were four years ago that it would have something to do with the price?

A. It would have something to do with it, yes, sir.

Q. And wouldn't you think it a very much less desirable investment than if the same quantities were extracted as four years [fol. 1100] ago?

A. Yes, sir, very much less desirable. And I believe the fifty per cent rule should apply as you go down.

Q. Why do you take the 50 per cent, Mr. Jirgal?

A. I just take it because all the testimony seems to be supporting that.

Q. It is purely an arbitrary figure, is it not?

A. Any percentage rule would be arbitrary.

Q. There is no basis for it at all, is there? Why do you select 50 per cent?

A. Because the West Virginia Commission has done so hereto-

fore, and because the Supreme Court of Appeals of West Virginia has said it should apply.

Q That is the only basis?

A Yes, sir.

Q If you worked it out independent of the gas business, what value would you arrive at?

A In the last case I did that and I came to a higher per cent than 50 per cent.

Q What percentage did you get?

A I can't say right at this moment what the percentage was.

[fol. 1101] Q Now, that extraction of gasoline is worth something, but don't you think it would be very much better to put it on a more stable basis than a share of the profits of the company?

A No, I don't. I don't think so, for the reason that I gave. The value of the extraction privilege that takes it from the natural gas is determined by the net earnings that they will get out of the product, which is the gasoline. Now, that is the best test of value, that is the test that is applied in the commercial field generally.

Q How are you going to pay that, as a part of the profits or a part of the products?

A In a part of the profits.

Q Now, wouldn't it be more stable if you paid it in a part of the product?

A It might be more stable.

Q The price of gasoline has always been a very fluctuating thing, hasn't it?

A Yes, sir, I should say it has.

Q Ever since its use has become large, that is true, isn't it?

A It hasn't fluctuated any more than any other competitive product, I would say.

[fol. 1102] Q It has fluctuated a good deal more than the price of natural gas in Charleston in the last few years?

A I should say it has, yes, sir, but natural gas is not a competitive product.

Q And gasoline is a product of the natural gas?

A Yes, sir.

Q Now, wouldn't good administration, in so far as the public service is concerned, advise or dictate that you get as stable a basis for a rate as possible?

A Yes, sir, provided it is fair.

Q In other words, in rate regulation you should attempt to get a normal tendency, a stable rate?

A Yes, sir, stable and fair.

Q Now, it provides that one-half of the gasoline—that one-half of the profits arising from the manufacture of gasoline, according to your calculation here, are a very considerable element in arriving at the fairness of the rate?

A Yes, sir.

Q You, I believe, calculate some $900,000.00 as the amount that the Gas Company is entitled to receive for the gasoline privilege every year, don't you?

A. Yes, sir.

[fol. 1103] Q. Now, that would be, last year suppose, and we will suppose this year that would fall to $100,000.00, where would the other $800,000.00 come from?

A. It wouldn't come from anything.

Q. The Gas Company would lose that?

A. Oh, no, I distribute 50 per cent, if 50 per cent is a fair basis.

Q. Suppose the gas company was entitled to earn, in order to get a fair return on the investment, $2,000,000.00, and that $900,000.00 of that was from gasoline earnings, that would leave $1,100,000.00 from the gas?

A. Yes, sir.

Q. And to fix the return for next year it would turn out that, in order to earn or to make $2,000,000.00 it would have to earn $1,900,000.00, the gasoline having fallen off to $100,000.00, where would you get the other $800,000.00?

A. Well, in that case you would have to get it out of the rate.

Q. Well, we have had fluctuations that extreme — the last few years, haven't we?

A. No; if you will refer to Exhibit No. 8 you will find that 50 per [fol. 1104] cent of the gasoline net has only fluctuated in the last four years between a million three hundred thousand dollars and nine hundred thousand dollars. Now, if the rate was fixed as per your theory, your argument would have some merit, but in every example there has always been an excess and that excess can take care of a contingency of this kind on the showing that has been made.

Q. You believe this company is getting a great deal more than it is entitled to earn, don't you?

A. I haven't gone into that question.

Q. Isn't that the question we are trying to determine?

A. Well, I am not trying to determine that question.

Q. You are trying to throw some light on that, aren't you?

A. Yes, sir, and I have given only one factor and that is the cost.

Q. You haven't made any effort to find out what the present value is, have you?

A. No.

Q. You don't know what it is at the present time?

A. No, sir.

Q. You don't know whether it is three times what you have fixed [fol. 1105] it or ten times?

A. I am sure it is not ten times, and I am sure it is not three times.

Q. You fix it at $16,000,000.00, don't you?

A. I certainly do not; I do not fix the value of this property at $16,000,000.00.

Q. I am not talking about the value, you fix for the amount of the property, which it now represents in the original investment $16,000,000.00?

A. No, sir; just a calculation to show what the depreciated investment would be if you applied the depreciation and depletion basis we use as one of the factors, but no more a factor than Mr. Urbe-

lacker's reproduction cost. Mr. Uebelacker's reproduction cost is only one evidence of value, too.

Q. You have taken yours as to what the property cost originally, as your element of value?

A. Yes, sir.

Q. And you have even gone farther than that and tried to get back to what it cost the party that sold to the United Fuel Gas Company?

A. Well, no, I haven't. I have shown that the way it was put up on the books did not reflect the cash cost to the parties that turned [fol. 1106] it over.

Q. What difference does it make if they pay for it in cash or notes?

A. None, but if you buy a property at $10,000.00 there has got to be a good reason why you would take that on the books at $20,000.00.

Q. What piece of property did this company buy and put on the books at $20,000.00?

A. Well, they bought the United States Natural Gas Company at the cost of around $2,000,000.00.

Q. In other words, you mean to say they paid two million dollars more than the people before that paid for it?

A. Yes, sir.

Q. And you want to take that two million dollars off?

A. No, sir. I am indicating that the books do not reflect the original cost.

Q. To who?

A. When you issued $5,000,000.00 worth of the securities I don't believe it meant that was worth $5,000,000.00.

Q. You think these people didn't believe that property was worth [fol. 1107] what they paid for it on the books?

A. No, but I do believe a certain measure of appreciation was considered by them at that time, and figured over a period of years they might be able to pay out on that basis but they paid $2,000,000.00 more in par value of securities than the people before paid for it. I think when the directors of a corporation buy a property, the company ought to get the benefit of their good purchases.

Q. That may be true, but there is no law you know of that covers that, is there?

A. I don't know anything about the law on it.

Q. Well, there is no reason why a director of the United Fuel Gas Company shouldn't go out here and buy another gas property and sell to another gas company, providing they have been fair and open about it?

A. I wouldn't take that matter as the whole consideration—the Commission should take that into consideration in determing whether the original cost is properly reflected by the books; I attempt to show that in the case of those leases or bonus payments that book value is supposed to represent, were actually acquired at less figures than you place them on the books at. In other words, what you have on [fol. 1108] your books is bonus payments, and that is what the classification says you should have; when this company bought this

property for five million dollars, and that was two million dollars more than the people they bought it from paid for it——

Q. You think that is bonus?

A. What I mean, Judge, is that the account you have on your books is supposed to represent bonus payments, not the values of leaseholds.

Q. It represents just what this company paid for the property, don't it?

A. It is the cost for reproducing—it is the bonus——

Q. What do you mean by that?

A. The first payment on the leases; I call it that; that is what it is called on your records. I am talking about all the payments you make.

Q. I am talking about this two million dollars which you say the property should be depreciated by?

A. I didn't say that; I say that is one indication——

Q. That the company is flim-flamming somebody?

A. No, one indication the books do not reflect the original cost. [fol. 1109] Q. You mean the fellow who gave the loan in the first instance?

A. Let us take the United States Natural Gas Company. It was a public utility, wasn't it?

Q. No, I don't think so. We didn't have any public utilities then in the sense we have them now.

A. It was subject to the laws the utilities are subject to now; the procedure of the Commissions in determining the original cost of the property is to determine the original cost, not only to the immediate company but to the predecessor company, otherwise you have this situation, that every time it was to its advantage the company would reorganize and create a new company and transfer the properties at new values.

Q. And that is the theory upon which you try to exclude this two million dollars?

A. I haven't excluded any two million dollars; in all of the exhibits I have given you credit as you have it on your books.

Q. But you argue that two million dollars should be excluded, don't you?

A. No, sir, I think not.

Q. Well now, is there any more reason why you should to go back [fol. 1110] to what the predecessor paid for these leases to get their value than there is for going back to what the company's predecessor paid for the real estate upon which its office building sits to ascertain the value of it?

A. Well, if that is an element you have to find that at the date of acquisition——

Q. Whose acquisition?

A. Well, if you acquired it, your date of acquisition. It's the date of acquisition at the time it is dedicated to the public utility business. Now, Mr. Uebelacker, I believe, follows the same principle, except when he comes to the acreage and then he accepts the book value. When Mr. Uebelacker finds the value of a property he finds

it at the time it was put in. Now, if you reorganized in 1923, January 1, 1923, and Mr. Uebelacker was to determine the historical cost, by his method he would go back to 1910 for any property that went in at that time.

Q I don't know whether he would or not.

A He would either do that or else not present a historical cost report, one of the two.

Q Well, cost is a relative term. What it cost one man hasn't anything to do with that which it cost another, if you are going to [fol 1111] get at the historical cost.

A But when you pay for property in securities that doesn't mean that the company valued it at the par value thereof; in most states they could only issue par value stock up until recently.

Q And you don't think that stock was worth its par value; you depreciate that to fifty per cent?

A I am not going into the question of what the stock is worth; I am going into the question of what the property cost.

Q I don't see what you are kicking about now.

A I will tell you. They went in there and bought a concern that was running in the hole.

Q And they took the chance and you want to take away the profits from them and give it to somebody else?

A I don't want to take a dollar from them. I want to base the rate on what may be found as the fair value of this property.

Q And you are trying to get your figures adopted?

A No, sir.

Q Don't you present these figures to them with the idea that you will get them adopted.

(Objected to.)

[fol 1112] A No, sir. I am giving them the original cost figures.

Q Why do you put this in here, then?

A I want that given some weight in fixing the fair value of this property.

Q How much weight?

A They can determine that themselves.

Q You don't think it amounts to anything much, do you?

A It certainly does.

Q You don't think that the value or the cost of getting an oil or gas lease twenty, fifteen or ten years ago, in wild cat territory, is any evidence today of the value of that lease, do you?

A Yes, sir, I do; I think it has some value, because a lot of what you have on your books have been acquired recently, and to that extent it has an important bearing on value, and in addition to that you have got some measure of appreciation taken up there in the beginning. When you had this vision you talk about in the beginning of 1909 you put the par value of that stock, Judge Ritz, at some figure which had taken into consideration that fact, and when you [fol 1113] put that in at $5,000,000.00 or considering the old United Fuel Gas Company at six million, you had in mind not only the immediate profits——

Q. And if our records show there was none——

A. But the ultimate profits you had in consideration.

Q. There weren't any for ten years, were there?

A. About seven years.

Q. Had their money in — and got nothing?

A. Yes, sir.

Q. I believe you stated the other day they never put anything in here but the original two million dollars and that was in securities?

A. No, sir.

Q. You have an exhibit which shows that, don't you?

A. Oh, no, I didn't show that, Judge Ritz. There was originally put in this bond money by the assumption of debts of the old United States Natural Gas Company and some debts created by your old company.

Q. And a whole lot of money borrowed, wasn't there, in the first ten years of this company?

A. Not very much.

Q. Well, about ten million dollars. They took a chance in borrowing ten million dollars—took a chance of loaning it to a company who was running at a deficit all the time?

[fol. 1114] A. Well, Judge Ritz, that is not a practical application. If you had gone through this period, I don't think the original owners would have suffered a great deal; it was the bond-holders.

Q. Well, they were all the same, weren't they?

A. I can't say, because the records don't show.

Q. You haven't any idea that those bonds were sold on the market, under the circumstances, do you—I mean the United Fuel Gas Company bonds?

A. Well, we can exclude something for that; I think that would be right, because when the refinancing took place in 1909 they were debentures.

Q. The stockholders bought them all and carried them themselves?

A. Yes, sir.

Q. And took the risk they would never be paid or might be paid in a long time?

A. Yes, sir, and they ought to have that considered in the rate of return on the going concern value.

Q. You don't put any going concern value at all, do you?

A. I do, yes, sir. The first statement you will notice is three million dollars.

[fol. 1115] Q. But when you estimate or figure out what return they should have, what going concern value do you put in?

A. I do not go into that.

Q. Well, that is one—that is what you are trying to determine by the tables—that is one of the methods of determining that when you figured out this statement that was published in the newspaper that this company was getting 21 per cent return—there was no going concern value in that, was there?

A. Yes, sir.

Q. Where do you get that?

A. On Exhibit 1, page 11, you will notice I have three million dollars for going concern value and $990,000 for working capital.

Mr. Diederich:

Q. How do these allowances compare with the allowances made by Uebelacker for the same purpose?

A. I don't recall what Mr. Uebelacker's figures were.

Judge Ritz:

Q. Now, in arriving at this thirty million odd you have included three million dollars for going concern value?

A. Yes, sir.

Q. And $990,000.00 for working capital?

[fol. 1116] A. Yes, sir.

Q. And all of your calculations as to rate of return are based on the value of the property being as you have found it in these reports?

A. Yes, sir.

Q. If the value of the property turns out to be more than that, then your rate of return is wrong?

A. Yes, sir.

Q. And that also is based upon the theory of allowing 4.3 per cent for depletion, deterioration and amortization of the property?

A. 5.3 per cent.

Q. And if that is not sufficient for depletion of the property, the amortization of it and the deterioration of it, then you are in error as to that, aren't you?

A. Well, if the Commission finds that the allowance for depletion and depreciation should be larger than I have given, of course my report would be subject to that finding.

Q. Well, now, do you allow anything for amortization of the property?

A. I have already explained how I considered that.

Q. Your term "depreciation" includes all of those things? It in-

[fol. 1117] cludes the element of amortization, as a matter of fact?

A. You don't consider the item of amortization yourself on the books.

Q. I am not talking about the books. You can do anything on books. I am trying to get the facts.

A. The books ought to determine your profits, and if you put the depreciation rates into effect the Commission allows you and don't change your basis of accounting, you will have more profit than the Commission would give you as a return.

Q. If you can put on your books four per cent depreciation for one year that is all it is entitled to?

A. Well, no, I have increased the depreciation and depletion based on cost over what the company shows on its books.

Q. Well, they haven't got the eleven million, have they?

A. They have ten million on the books. I am talking about money they have invested in property and are asking a return on.

Q. And all that was necessary to keep this plant up to one hundred per cent?

[fol. 1118] A. Yes, sir.

Q. You know the fact to be that the United Fuel Gas Company has a plant today that won't deliver any more gas to its customers than the plant it had three years ago, don't you?

A. Well, I would assume that was the condition.

Q. And you also know, from an examination of the company, that in order to have a plant today to deliver the same amount of gas it did three years ago, it had to spend several million dollars to do that?

A. Yes, sir.

Q. And that is not replacements but entirely new units?

A. Yes, sir.

Q. Several new compressors?

A. Yes, sir.

Q. And you know if the United Fuel Gas Company had simply replaced such units as were worn out and obsolete three years ago, it couldn't be supplying anything like the amount of gas it did three years ago?

A. That is rather, I think, an operating problem. I don't know about that.

Q. You do know, however, it has made these large additions to the plant and that it hasn't sold any more gas than three years ago?

[fol. 1119] A. I don't know that, no, sir.

Q. In fact six or seven years ago I think it sold more.

A. You understand in some of those cases changes have been made in cases where you would sell more gas.

Q. Well, the plant itself I am talking of, it sold more gas in 1917 than it has ever sold since, didn't it?

A. Yes, sir, I think so.

Q. And sold more in the City of Charleston than it has since, in 1917?

A. I don't think 1917 is the correct year. I think it was in 1916.

Q. And it has never been able to get back up to that amount of quantity of gas since, has it?

A. Of course I don't know whether the necessity exists for doing it. I haven't gone into that, Judge Ritz.

Q. You know, as a matter of fact, it hasn't been done?

A. That is a fact.

Q. And you know the company has spent large sums in adding to the plant and adding new units to it?

A. Yes, sir.

Q. You know, too, as a matter of fact, the company has spent, in [fol. 1120] producing gas, a great deal more money for each thousand cubic feet than it spent a few years ago, don't you?

A. Yes, sir, but that is the history of public utilities generally.

Q. That is so far as price changes are concerned?

A. Regardless of price changes.

Q. Well, that would have to be one of the factors?

A. I can't say as to the other.

Q What rate of depreciation did you allow on the leaseholds?

A Sixty-five hundredths of one cent per thousand; that is, just the leaseholds.

Q And that is all you valued the gas in the ground at?

A I didn't value the gas in the ground.

Q That is all your report valued it at. If your report should be taken as the basis of the value of this company's property, then the value in the ground would be sixty-five hundredths of one cent?

A No, sir.

(Question read to the witness.)

Q Isn't that true?

[fol. 1121] A I can't see how you would get any value out of that.

Q But if the Commission adopts that as the value of the property, then necessarily that will be the value of the gas in the ground, won't it?

A I have tried to show right along that the value has nothing to do with the basis on which you depreciate or deplete the property. That is the fundamental difference between us.

Q Your idea is that, regardless of the gas, regardless of whether it is worth 8, 10 or 15 cents, the company is only entitled to .65 cents?

A That has nothing to do with the value.

Q That is all it gets for the gas in the ground, if your theory is adopted. It gets .65 of a cent to apply to the amortization of the leasehold cost?

A You must add your return on the value you figure—on the fair value—on the leasehold values, and you have to add taxes and you have to add operating expenses, etc.

Q Now, this company is selling gas at sixty-five hundredths of one cent per thousand cubic feet. That would be the effect of that, wouldn't it, in the ground?

[fol. 1122] A No.

Q How much would it get for that gas in the ground if your theory should be adopted?

A It doesn't get anything for it in the ground, nothing until it brings it up to the surface.

Q But if it does bring it up and distribute it, then it is entitled to sixty-five hundredths of one cent.

A No, sir. That amount is for the purpose of keeping the investment or book cost of the leaseholds intact.

Q Then, assuming it cost 4½ cents to bring the gas to the top of the ground or five cents, we will say, and to produce it where it is delivered into the transmission lines, the company would get 5.65 cents for that gas delivered into the transmission line, wouldn't it.

A No, sir; it still has the element of return.

Q I am talking about what it gets for the property.

A You have to consider your element of return.

Q For the purpose of amortizing the properties, 5.65 cents, isn't that true—on all its property, isn't that true?

A. No, just the leaseholds. The five cents was the operating costs.

[fol. 1123] Q. How is that?

A. Judge Ritz, according to your own witness, Mr. Uebelacker, that 5 cents includes this. It includes a return on the well investment,—it includes a return, a depreciation or whatever you call it on your well investment, taxes and everything.

Q. That is why I say 5.65 cents would include all those things?

A. No, you have to add on top of the 5.65 the return you find on the value of your leaseholds. I didn't find the value of the leaseholds. I find the book cost.

Q. What do you find that to be?

A. The operated and unoperated, about seven million roughly.

Q. Now, you say a rate of return would be allowed on that seven million?

A. On whatever figure the Commission finds is the fair value of those leaseholds.

Q. Assuming you are correct, that seven million dollars is the fair value——

A. I didn't say that.

Q. Well, assuming that the book value is a fair value, as set up [fol. 1124] in your report, how much of that return, would that amount to at 8 per cent a year?

A. That would be between one and two cents a thousand, the way I calculate it.

Q. It would be $560,000.00; it would be $560,000.00 divided by 46 million cubic feet, which would make a little over one and one-half cents?

A. Yes, sir.

Q. Then, if you add that one and one-half cents to the 5.65, which would be 7.15 cents as the maximum the company should be entitled to, should your figures be adopted for the gas ready to turn into the transmission lines?

A. Well, if my figures were adopted that would be true but they would be subject to an allowance for taxes.

Q. You have that all in, haven't you?

A. No, only on your well investment; I haven't your taxes in on your acreage yet.

Q. You have all the taxes the company paid, don't you?

A. But I haven't allocated them to the acreage.

Q. And to our investment?

A. Yes, sir, there is many other items, certainly, subject to some other items.

[fol. 1125] Q. Now, Mr. Jirsa, if gas is selling in this field for 18 cents a thousand cubic feet, ready to be turned into the transmission lines on that basis, then the people who deal with the United Fuel Gas Company would get gas a little over ten cents cheaper than anybody else would get it. Is that true?

A. I hardly think that would be a fair basis for calculating; you would have to take it on the basis of what some willing seller would sell you all this gas which you need for your requirements.

Q. You know the Hope Natural Gas Company is a willing buyer and that it pays 18 cents?

A. Well, from the way I look at it it looks to me like the Hope Natural Gas Company is a willing buyer under pressure.

Q. Well, every buyer buys a thing because he wants it, don't he?

A. Sure, yes, sir.

Q. You don't think the Hope Natural will do that, do you?

A. I don't know what they are doing.

Q. But if I were to read to you the figures and as to what the Hope gets from the United Fuel Gas Company and then how on cold [fol. 1126] days the gas is shut off to them, that would be conforming to the opinion that they were hard pressed for gas?

A. Sure, they are. And it may be they will be willing to pay trat 18 cents for that additional amount which will put them over; I know of some companies that would be willing to pay any price, so in the long run they wouldn't get in trouble for the privilege of having gas in cold weather. For instance, down in the Kansas field, several years back, they froze on several days, had extreme hardships on account of it. Now that company, rather than have its customers suffer those hardships would pay any price for gas.

Q. That was to take care of a peak load situation?

A. Well, that company is concerned with the peak the same as you are concerned, and it determines what your price is to be; the peak is one of the things you have to determine when you figure out what you are going to pay.

Q. You have determined on the basis you have set up in these figures the company has a net profit, after depreciation, etc., of something over five million dollars I believe?

A. $5,100,000.00

[fol. 1127] Q. And after deducting $1,399,000.00 for depreciation and depletion you find a net revenue of $5,143,000.00?

A. Yes, sir.

Q. In arriving at that figure of five million net you have deducted $312,000.00 for income taxes?

A. Yes, sir.

Q. How did you arrive at that?

A. Well, we made certain adjustments, the principal one of which was the adjustment for the gas to the parent, delivered to the parent companies at a lower figure than the figure we place in here, and if the company charged that they would have to pay a higher income tax individually.

Q. But if you find $5,000,000.00 as the net return, shouldn't the income tax be $600,000.00.

A. Well, for the purpose of income tax you are entitled to deduct items which are not considered in rate regulations.

Q. What items?

A. In the case of mines and natural resources you are entitled to deduct the depletion on the added value, which comes from the fact that the discovery value is greater than the cost.

Q. Then, the items you are allowed to deduct because of the mak-[fol. 1128] ing of income tax returns are based on the actual pres-

ent value of the property, while you contend they should be based on the cost, and that is what makes that difference, is it? (You contend for the purpose of this case, I mean).

A. Yes, sir; the deduction for depletion for income tax purposes is merely to determine the net taxable income which accrues.

Q. Yes, I understand that; it would be the same thing for rate making purposes, if you depleted the value instead of depleting the cost of it, wouldn't it?

A. Certainly, but the Income Tax Bureau has determined that only as the basis for taxation, that is all. The Federal Government has to collect, as much, whether it gives any differential to a mine owner or anyone else.

Q. I understand that, but it is based on the value of the property.

A. Well, if you take that basis, why wouldn't you take the bases of taxes in West Virginia for your argument. You only pay for $20,000,000.00 in this state.

Q. Mr. Jirgal, what I am trying to get at is this. That the difference or the reason why the income tax arrived at by you is $312,000.00 is because in doing that you used the rates of depletion and [fol. 1129] taxes allowed by the Federal Government instead of those set up by you here, and that those rates are based on what you think is the actual value instead of the cost of it?

A. I don't understand the Government has ever said that value was right.

Q. Isn't that teh law?

A. But the law has nothing to do with the amount, as I understand, your income tax situation hasn't been settled yet, has it?

Q. I am talking about how you settle it. You say we should pay the income on $2,500,000.00, in round numbers. That is true, isn't it?

A. I think it is about that.

Q. Now, the Government arrives at that taxable income by taking the amount of money the company has earned and making certain deductions, etc?

A. Yes, sir.

Q. And you have figured if the company does that there will be a taxable income of about $2,500,000.00?

A. Yes, sir, if the company's figures on that basis are right, that is right.

Q. But $312,000.00 would mean a taxable income on about [fol. 1130] $2,500,000.00.

A. Yes, sir.

Redirect examination.

By Mr. Diederich:

Q. Mr. Jirgal, have you made up any statement showing the gasoline gross earnings and net revenue for the twelve months ending October 31st, 1924?

A. Yes, sir, we have.

Mr. Diederich: We offer this in evidence as "Jirgal Exhibit No. 9."

Jirgal Exhibit No. 9.

(The same was filed, marked as above indicated and is hereto appended.)

Judge Ritz: You have the same statement we have except you have added three months?

A. Yes, sir, and the bond interest we have taken out and royalties.

Mr. Diederich: I believe that statement shows for itself, Mr. Jirgal, unless there is some comment you wish to make.

A. There is no other comment I care to make. That is prepared in the same manner as the other statements.

[fol. 1131] Recross-examination.

By Judge Ritz:

Q. You have included in this statement the Cabin Creek Gas Company?

A. Yes, sir.

Q. Why do you do that?

A. Because all the exhibits in this proceeding have been placed on a consolidated basis, even your own valuation.

Q. We are talking about gasoline earnings now, you understand. Don't you know as a matter of fact that all the net proceeds of the Cabin Creek Gas Company go to the United Fuel Gas Company?

A. But in the consolidated statement that goes out of the earnings and expenses and doesn't change your result in any way. That doesn't have any effect on the consolidated statement.

Q. I understand, but you are charging the United Fuel Gas Company with one-half of the net proceeds from the gasoline manufactured by the Cabin Creek Gas Company?

A. Not charging the United Fuel Gas Company, no; I am giving credit to the gas business as a whole for one-half of the net proceeds.

[fol. 1132] Q. As a matter of fact the United Fuel Gas Company has already had credit for all the proceeds from the Cabin Creek Gas Company, hasn't it?

A. If it has it is not in our statement.

Q. The United Fuel Gas Company own the stock of the Cabin Creek Gas Company?

A. Yes, sir.

Q. And whatever the Cabin Creek Gas Company gets the United Fuel Gas Company gets all of it?

A. Yes, sir. We have just eliminated the whole thing. I have gone over the balance of the statements in a very hurried way that the Gas Company introduced up to date. I am unable to go into them fully, but so far as I can tell there is a decrease in net earnings of about $300,000.00, after you consider the gasoline royalties out, and

that $300,000.00 is, as I understand after all the appraisal expense has been included in the current year, and also rather high charges for the maintenance of the distribution system. I understand that they tested the distribution system quite extensively during the last year, and that accounted for about $100,000.00 increase in the distribution expense.

Q. And you don't think they should have been tested?

[fol. 1133] A. Oh, yes, sir, I do. I just want to account for the difference. I don't know whether or not that expense comes each year for this testing.

Q. Some of our patrons say we don't test them often enough.

A. If you have any leakage like you say you have, you certainly handle your distribution system efficiently. We also went into the question of the additions to capital, and found out the company had on its books the $2,000,000 charge you have stated. Of course the question comes up there as to whether all that $2,000,000.00 is to be considered in the rate base, because not all of it was in service throughout the year.

Q. We don't get any return for that either way, do we?

A. You have the question what you ought to get for the half year it has been in.

Q. We wouldn't get that return until this year; that is all in this year.

A. But if any benefit is to be derived from that you are going to get larger return.

Q. That is principally the compressor stations, was it not?

[fol. 1134] A. I understand $400,000.00 in there for new compressor station and $400,000.00 for a new transmission line.

Q. And about $1,000,000.00 for new wells?

A. Yes, sir. On the whole, I don't see any reason for taking any exception to these statements, outside of those shown to apply to this period, as well as the period prior. In other words, I think the same exceptions or adjustments should be made this year as was made in our report; that is for the parent company revenues and for the rentals on the acreage and for that item of taxes and for the proportion of the gasoline net.

Judge Ritz: I will say now the purpose I had two reasons for putting in those statements. One was that next year there will be something over $2,000,000.00 of new property added, and notwithstanding that we have added that $2,000,000.00 in property, we are not getting any more gas.

Mr. Diederich: Referring to Jirgal Exhibit No. 2, I assume that you explain fully your method of arriving at the depreciation mentioned in that exhibit?

A. Yes, sir, I did that. I attempted to do that this morning. The rates for depreciation are practically the same as those used by the [fol. 1135] company. For depletion, we use the cost basis, the book cost basis, and in that case we divided the total book value of the present acreage plus that which has been abandoned since the begin-

ning at the book cost thereof by the same amount of gas that has been sold since the beginning, and the amount of gas that the company's engineers estimate is still in the ground, plus whatever incidental purchases will be made, and that gave an average of .65 of one cent per thousand, and we distribute that in proportion to the amount of gas sold each year. The reason for doing that was to relate the depletion to the amount of gas taken out each year.

Redirect examination (resumed).

By Mr. Diederich:

Q. Mr. Jirgal, what difference in rate for the company as a whole would it make if you gave effect to the changes in operation and investment of the company since December 31, 1923?

A. You mean in the average rate for the company as a whole?

Q. Yes, sir.

A. Well, as near as I can gauge it, about one cent per thousand.

Q. Are you acquainted with these changes in operation and in-
[fol. 1136] vestment of the company since December 31, 1923, to the present date, or the major portion of them, or in general?

A. Only in a very general way. I have made no detailed investigation since December 31, 1923.

Q. Are you acquainted with the geographical relation of the Kentucky cities with the state of West Virginia?

A. I know that the Kentucky districts are only a short ways over the line.

Q. In fact, the Big Sandy river separates the state of West Virginia from the state of Kentucky?

A. I understand so.

Q. Now, Mr. Jirgal, from your investigation of this case, what would be the greatest differential in the price of gas caused by having to transmit it to the Kentucky cities compared with that to the West Virginia gas used?

A. You mean that if I assume that the West Virginia gas rate are a certain amount, what differential would have to be added for distance?

Q. Yes, sir.

A. Well, I have not made any computations on that, but it would not seem to me to be very great. I would think three or four cents
[fol. 1137] would be the limit.

Q. In your judgment that would be the limit?

A. That is, it would not be any higher than that amount—three or four cents per thousand cubic feet.

Stipulation

It is stipulated that Jirgal Exhibit 9-A may be filed, and it is hereto appended.

WILLIAM J. HAGENAH, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Dieslerich:

Q. I wish you would give your name to the stenographer.
A. William J. Hagenah.
Q. And where do you live?
A. Chicago, Illinois.
Q. What is your occupation?
A. I am a member of the firm of Hagenah and Erickson, specializing in public utility analytical work, such as the making of appraisals, cost analyses, rate studies and financial investigations of all forms of public service corporations.
Q. Mr. Hagenah, will you please briefly outline your experience in this work and your qualifications for doing the same?
[fol. 1138] A. I have been engaged in public utility analytical work for approximately twenty-one years. My first experience in this field was with the state of Wisconsin, where I had charge of a number of public utility investigations before the Railroad Commission of that state was created as a public service commission. In 1907, when the public utility law of that state was passed, I was made chief statistician and rate expert for the Railroad Commission, which position I held until June, 1910, when, on the invitation of the City of Chicago, I was given a leave of absence to go to Chicago for the purpose of making two public utility investigations. These covered the Chicago Telephone Company and the Peoples' Gas Company of Chicago. I concluded this work in July, 1911, and then engaged in private practice in Chicago alone until May, 1916, when the firm of Hagenah & Erickson was formed. During the twenty-one years experience in this field I have made appraisals, cost analyses and rate studies of public utilities in practically every large city in the United States and many large cities in Canada and other countries, the aggregate value of these properties being in excess of two billion dollars. I have made appraisals of natural gas properties, and made rate studies of such utilities covering properties [fol. 1139] in West Virginia, Ohio, Pennsylvania, Kentucky, Louisiana, Arkansas, Oklahoma, Texas, Kansas and California. I have represented the Public Service Commissions of Wisconsin, New York, Tennessee, Alabama and North Dakota, and have represented a large number of cities in the United States and Canada.
Q. The investigations which you made of public utilities furnishing gas to the public, do they include both natural gas and artificial gas supply?
A. They do, yes, sir.
Q. To what extent has your work been given to the study of natural gas utilities in Pennsylvania, Ohio and West Virginia?
A. Our firm has been engaged on some natural gas case or other covering practically all the time since 1917. Some years we were

doing more work of this character than other years. The natural gas properties which I have appraised are probably worth over one hundred million dollars.

Q. Have you had occasion to appraise and examine the properties of the United Fuel Gas Company prior to the work which you have done at this time in this hearing?

A. I did not make an appraisal of it, but I have studied appraisals [fol. 1140] made by others and have made various examinations of accounting exhibits and have made some accounting studies myself on behalf of my firm since 1917.

Q. You were employed in the previous cases of the United Fuel Gas Company in their applications for increased rates before the Public Service Commission of West Virginia?

A. Yes, by the cities of Charleston and Huntington.

Q. Mr. Hagenah, have you made an appraisal of the property of the United Fuel Gas Company at the instance of the protesting cities of Charleston and Huntington, and other cities in that section of West Virginia, in the proceeding now pending in West Virginia?

A. I have not made an independent appraisal, but I have analyzed the inventory and appraisal of this company's property as made by Messrs. Ford, Bacon & Davis, and have made sufficient studies to make me believe that some adjustment should be made in the appraisal as filed by them.

Q. Will you please state the nature of the check which you have made of that appraisal and what steps you took with the data supplied by the company's engineers, and in that connection I will ask you whether or not you have prepared a study as a result of the check and consideration that you have given to the report of Ford, [fol. 1141] Bacon & Davis.

A. I have prepared a memorandum report covering this subject. This report is in summary form, but I have accepted the inventory and unit cost of Ford, Bacon & Davis and explained the examination I made and why I accepted it.

Mr. Diederich. We ask that this be filed as "Hagenah Exhibit No. 1."

Hagenah Exhibit No. 1.

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

The Witness. By way of brief explanation of the four-page descriptive text which accompanies the exhibit, I may say that at the request of the cities of Charleston and Huntington, I, with two assistants, made a somewhat extensive check of the books of the United Fuel Gas Company for the purpose of determining, first, the substantial accuracy of the inventory as made by Ford, Bacon & Davis, and, secondly, to ascertain whether the unit costs which they had incorporated in their appraisal correctly reflected the reproduction cost on the basis which they state in their appraisal. In every instance the [fol. 1142] inventory checks which we made agreed exactly with those made by Ford, Bacon & Davis. These checks covered random

sections of the most important classes of property, such as transmission mains, buildings, local distribution systems, and compressor stations. I found no error in any instance. As to the unit costs, our study extended over the entire history of the present company in respect to all the larger classes of property, and I am able to state that the unit costs used by Ford, Bacon & Davis are correct, as reflecting the basis which they state.

My only points of difference with Mr. Uebelacker's report goes to certain questions of principle, as, for example, the value which he assigned to the leasehold property, the existing depreciation in the physical property, the allowance for overhead charges and the subject of going concern value. In this memorandum, exhibit 1, I have substituted the book cost for the gas leaseholds and gas rights as determined by Mr. Jirgal. This cost was $6,732,920.00, and appears as the first item at the top of page one of the statistical material. That is a mere substitution of the book cost in place of the appraised value found by Mr. Uebelacker, as I think the book cost more nearly reflects and more accurately shows the present value of the gas re- [fol. 1143] serves than does the valuation figure which he adopted.

As to the per cent condition of the property, I have differed from Mr. Uebelacker in principle. He has found, and shows, the per cent condition of the property as determined by the inspection method. This is correct, and is the proper method laid down by the United States Supreme Court for properties which have a more or less continuing existence, such as other public utilities such as artificial gas companies and electric companies, where the owners are under obligation to replace the property as it wears out in service. In the instance of the United Fuel Gas Company, the life of much of the property is determined by the life of the field. In other words, on the exhaustion of the gas reserves the property devoted to the exploitation of the fields would have very little value except for salvage, and that would be of doubtful amount because of the cost of reclaiming it. It is my view that the property which will probably be replaced before the expiration of the gas reserves, which the company's engineers estimates to be eighteen years, partakes of the same nature of property of other public utilities, and can therefore be correctly analyzed from a depreciation stand- [fol. 1144] point through the use of the inspection method. Those classes of property whose life is limited by the life of the field will not have to be replaced. In those instances the retirement of capital partakes more of the amortization principle than it does of straight depreciation. Whether we call it amortization or depreciation, a reserve is built up with a view to maintaining intact the integrity of the investment. If this is limited to eighteen years in the future, and the property is not to be replaced, the rate at which it is being retired through charges to the public constitutes, to that extent, a return of capital to the owners and is not property further subject to the full measure of return.

If we take the instance of a transmission system, which will undoubtedly live another eighteen years, the amount by which that property is being retired through the depreciation reserve represents

a retirement of the investment. The property will not be replaced, therefore the capital is, in fact, being returned to the owners. In this instance I have applied the straight line method.

The details of this memorandum, extending from pages three to fifteen, inclusive, are an exact copy of Mr. Uebelacker's figures, in so far as the reproduction cost new is concerned.

[fol. 1145] The per cent condition, however, differs according to the probable future life of the property. In those instances where the property will most likely be replaced before the expiration or exhaustion of the gas fields, I have accepted the Ford, Bacon & Davis results, as indicated by a star for each of the items. In those instances, however, where the life of the property will be cut short by the exhaustion of the field, and is therefore the same life as that of the field, I have adopted the percentage which reflects the reduced value on the straight line basis. This results, obviously, in a reduction of the present value of the property. If this principle is adopted by the Commission, the reduction is approximately two million dollars, more or less. If the inspection method is to be followed throughout, and that is accepted as the rule of this Commission, then the results as determined by Mr. Uebelacker are correct on that basis.

I have made one further change, which I think should be considered in determining the present value of this property. I believe the general overhead charges which Mr. Uebelacker has incorporated in his appraisal report are rather large. They range from 21½ per cent on the production system to as high as 26 per cent on the [fol. 1146] transmission system, being 22 per cent on the distribution system and on the general property. He has made, and properly so, substantial allowances for intermediate overhead charges, which he calls the direct overhead charges, on page 24 of his report, marked "Uebelacker Exhibit No. 1". These items cover many of the costs that are generally considered as partaking closely of overhead charges and direct costs. When, however, they are included in the direct costs to the extent that he has made provision for them, I think the further allowance of general overhead charges, as set forth on page 25, is more than should be allowed, because of two items, which he has included. I think an allowance for general overhead charges to the amount of 18 per cent is more correct and reasonable, that percentage applying to all the physical property, but not applying to either the value or the book cost of the natural gas reserves. By using my percentage of 18 against Mr. Uebelacker's percentage in excess of 22 per cent, there is a considerable reduction in the appraisal results. Mr. Uebelacker's total allowance for general overhead charges, as shown on page 48, of his exhibit No. 1, is $7,063,000.00. Against this, my judgment is that $5,398,000.00 is correct. [fol. 1147] There are corresponding differences in regard to the reproduction cost of the property less depreciation. Mr. Uebelacker has made no direct allowance in his report for going concern value, expressing the opinion that there is a certain amount of depreciation in the property which has not impaired its efficient operation, and that for practical purposes consideration will be given to the going

concern value by giving greater weight to the reproduction cost new of the property as the proper rate base.

It is my judgment that the reproduction cost new less depreciation more accurately reflects the proper rate base, in so far as the appraisal is a factor for determining the so-called present value of the property; and I have therefore added to my finding of the reproduction cost less depreciation an item of three million dollars to cover the going concern value, which is practically ten per cent of the appraised present value of the physical property.

Q. Now, Mr. Hagenah, will you please give your reasons why you feel that that is a fairer method than the one used by Mr. Uebelacker?

A. I think the allowance for going concern value should not be [fol. 1148] measured by the extent of the depreciation, even though, as is true in this case, the depreciation has not extended so far as in any way to impair the efficiency of the property's operation. I believe that the existence of going concern value in a well managed and revenue producing property is self evident, and that the only question to be considered is the reasonable measure of such going concern value. I have made many studies of this subject, and while there are various factors which may be considered, there is no one method which definitely measures the amount of the going concern value of any company at any one time. From an analysis of all the important Court and Commission decisions on this subject, I find that in the majority of instances the sum which the authorities have allowed, after considering all the evidence, has been approximately ten per cent of the value found for the physical property, and without making extensive studies from the various angles which may have a more or less direct bearing on this subject, I assume that such majority of opinion is important, and have accepted the ten per cent measure, which in this case is $3,000,000.00.

I find as the result of my analysis of Mr. Uebelacker's report that [fol. 1149] the present value of the property, based on the reproduction cost less depreciation, as of December 31, 1923, including his allowance for working capital, and my estimate of $3,000,000.00 for the going concern value, is $34,692,100.00. Exhibit No. 1 does not contain the item of $3,000,000.00 for going concern value. I call attention to that because I want it to appear that I have added $3,000,000.00 for this purpose, and wish it to be regarded as part of exhibit No. 1.

Q. You have accepted, as to the working capital, the amount of $990,000.00?

A. Yes, I have examined the company's accounts and I believe that figure conservatively expresses the working capital requirements.

Q. Now, Mr. Hagenah, in this appraisal which you have made, you have stated that you take the book cost of the leaseholds rather than any of the appraisals that have been given by the witnesses for the plaintiff.

A. Yes.

Q. Will you please state your reason for accepting the book cost as it appears in the records of the United Fuel Gas Company rather than these other appraisals?

A. I think the appraisal opinions which have been expressed on [fol. 1150] behalf of the company are all based on a wrong method for determining the value of property charged with a public interest and devoted to public service under state regulation. They have all used, in one form or another, the so-called economic exchange theory of value, which Courts and Commissions have repeatedly held does not apply in determining the value of public utility property, including the natural resources.

Q. Now, will you at that point, Mr. Hagenah, for the record, tell us what you mean by the exchange theory of value?

A. The exchange theory of value is explained at considerable length in the economic works of John Stuart Mill, Jevons and Taussig. It means the power of one product to command the acquisition of other commodities, in terms of money exchange, as of a particular date, unaffected and unrestricted by statute or artificial conditions. The exchange theory of value applies in determining the value of coal lands, of iron ore or timber lands, and of other completed products, generally, such as buildings and dry goods. It does not apply to the appraisal of property which is charged with a public interest and subject to public regulation, because the moment [fol. 1151] the exchange value is considered you make impossible the finding of any other value than the one with which you start in your assumption.

Q. Well, now, in order that we may know what you mean by that definition, will you please give us an illustration of the exchange theory of value and point out wherein it is condemned by both Courts and Commissions?

A. The exchange theory of value was originally adopted by the railroads in cases involving the determination of proper freight and passenger rates. They there proceeded on the theory, which has been somewhat abused by interpretation, that a proper rate structure was what the traffic would bear. The Courts held that that could not be made the proper basis for rate making, because the moment they started out with the assumption that a certain part of the rate fabric was justified under operating conditions, the acceptance of that theory resulted in the approval of the rate on which the assumption was based. That theory was discussed at some length in the Minnesota rate case by Justice Hughes. It has been considered in the appraisal of water powers, where public utilities owning such natural resources have attempted to capitalize the savings resulting [fol. 1152] from the use of water powers as compared with the use of the next best available substitute, namely, steam power. Commissions have frequently held that companies could not capitalize the entire saving on that basis, because that was the application of the exchange theory. They have recognized it to some extent. Some arbitrary divisions have been made of the savings between the public and the owners of the resource, but the property cannot be appraised for rate making purposes on the basis of capitalizing its saving as compared with the next best available substitute.

Q. Mr. Hagenah, have you had occasion to study the appraisal

which Mr. Ralph E. Davis and Mr. Uebelacker have made upon the gas and the leaseholds?

A. I have.

Judge Ritz: Just at that point may I ask a question?

Mr. Diederich: Yes.

Judge Ritz:

Q. Mr. Hagenah, did you give effect—give any consideration in your adoption of the book value of these leases, to the fact that they are leaseholds rather than owned in fee?

A. I have not gone into the detail as to the character of it, but have merely accepted the figure which appears on the company's [fol. 1153] books; I assume that that figure of $6,700,000.00 relates to the identical property which Mr. Uebelacker and Mr. Davis appraised. I have given no special consideration to the particular character of it.

Mr. Diederich:

Q. As the result of the study of the testimony and exhibits filed by Mr. Davis, have you prepared an exhibit and made an analysis and study of his testimony and the exhibits filed by him that relate to the appraisal or his judgment as to the value of the gas in the ground?

A. Yes, I have reviewed both the testimony and the exhibits of Mr. Davis, and Mr. Uebelacker and reduced my views regarding their methods and conclusions to writing. There are no statistical computations involved; it is a mere discussion of the nature of the theory, its inapplication to the purpose for which they use it, and the improper use or inaccurate use of the date compiled by them in support of their theories.

Mr. Diederich: We ask that this be filed as "Hagenah Exhibit No. 2."

Hagenah Exhibit No. 2.

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

[fol. 1154] Q. Now, Mr. Hagenah, will you please state briefly what is embodied in this study, and make such explanation of the charts that are filed with it as will more clearly show for the record.

A. Mr. Davis, through the application of the exchange of appraising natural gas properties, arrived at a fair value of the gas reserves of $32,458,000.00. The basis he used is clearly set forth in his report, from which I have copied a paragraph on page one of this memorandum. As it goes to the heart of the entire problem, I will read that, and it will clarify and also shorten the later explanation. He says,

"The value of a property capable of producing natural gas is conceived to be measured by the prospective earning power of the prop-

erty placed at its most advantageous use. To determine the value of such property it is necessary to consider the present use to which the property is placed and to compare this use with other uses available. If the present use is found to be most advantageous, the value will be dependent upon the prospective earning power of the property in its present use. If a more advantageous use be found available, it is necessary to determine if such use be competent to return a [fol. 1155] greater earning, and the amount of such earning."

This states very clearly that Mr. Davis says that if any other use for natural gas can be found than that to which this company is now devoting it, and it will produce a larger measure of revenue for them, the property, as devoted to the public service, should be appraised on such other use basis, and included at that rate in the rate base for public service regulation. That theory is precisely the theory that is condemned by the entire experience of public utility regulation. In this instance Mr. Davis, to apply his theory, finds that if the entire product of this company could be piped to the Pittsburgh industrial market it could be sold there to the steel industry at a price of 35 cents per thousand cubic feet. He arrives at that 35 cents by determining what the cost of the service would be on the next most economical basis. That he finds to be the producer gas, artificially manufactured. He shows in his report what that cost would probably be. As to the fixed charges on a hypothetical installation, the wages for the men who would operate such a plant, and the cost of the coal from the coal fields, including freight, and on the basis of the price level which prevailed as of [fol. 1156] December 31, 1923, he finds that producer gas could be manufactured for the steel industry at 35 cents per thousand cubic [fol. 1157] feet, therefore any saving which the United Fuel Gas Company could obtain on the basis of selling this gas at 35 cents in Pittsburgh, after deducting operating expenses and fixed charges incidental to bringing the gas there, should be capitalized. He multiplies the entire recoverable content of the field, over an estimated period of eighteen years, by this profit per thousand cubic feet; and since this revenue is to be obtained over a period of eighteen years in the future, he applies an eight per cent compound interest discount factor. He makes another estimate for assumed federal income taxes over eighteen years, and arrives at a present worth of the field of $32,458,000.00.

I have with some care developed the economic argument and the practical criticisms pertaining to this method, believing that it would save time for all parties, and also present the issues more clearly by setting them up in this form. The substance of my criticism is two-fold. First, the theory does not apply to the appraisal of public utility property. Mr. Davis says it has been used in the appraisal of mineral lands for the purposes of sale and taxation. That is correct, and it is properly used there; but the important fact is that this is not a case of taxation or of sale. This is one of [fol. 1158] rate making; and the more important fact is that the theory which he advances has not been applied in this particular class of cases.

Secondly, the data which Mr. Davis has compiled, and on which he applies this theory, are open to severe criticism as to their reasonableness and the likelihood that they will continue long to reflect the cost of manufacturing and delivering producer gas. There are also many questions of a practical nature as to whether this company could supply the steel industry in Pittsburgh.

I have already referred to some of the matters contained in this exhibit in answer to Mr. Diederich's previous question. On page 4 of this exhibit I discussed at some length Mr. Davis's analysis of the Pittsburgh market. There are certain significant sections in his report. In one he says,

"We find that today the steel industry of the Pittsburgh district is emerging from the period when natural gas was largely used as a fuel and entering a period in which bituminous coal supplies the fuel requirements formerly met by natural gas. It is evident that a critical period in the use of natural gas in the steel industry in the Pittsburgh district has been reached."

That is correctly stated, and is exactly the condition which now [fol. 1159] exists in Pittsburgh. Testimony is now being offered in Pittsburgh by the natural gas companies in Pittsburgh before the Pennsylvania Public Service Commission, in which the companies are seeking an increase in rates, and their general manager testifies——

Judge Ritz: I suppose it is hardly necessary to testify what somebody else is testifying in Pittsburgh.

Mr. Diederich:

Q. You may tell what conditions are in Pittsburgh, if you know.

A. The conditions there are that the natural gas companies have lost a large part of the steel business and are losing more of the business. Jones and Laughlin Steel Company has recently abandoned entirely the use of natural gas. This business cannot be recovered by the natural gas companies.

One reason the steel companies of Pittsburgh cannot rely on the natural gas business is shown by a table or chart taken from a recent report of the United States Department of Commerce showing the extreme fluctuations in the demands of the steel business, illustrating the old phrase that the steel business is either prince or pauper. The variations in the steel operating capacity and output as reflected by the unfilled orders reported from month to month indicate that [fol. 1160] the peak of operations in the major cycles ranges from 250 to 300 per cent of the operations in the base periods. It is my view that an industry subject to such extreme fluctuations could not take the entire gas supply. If it took enough gas to meet its maximum demands in periods of high operation, it would not be able to take the United Fuel Gas Company's production in periods of depression. If the capacity of the gas company were adjusted to meet periods of depression operation, then the steel companies would have to supply themselves with artificial gas supplies for peak pro-

duction. This condition has resulted in the steel companies making themselves independent of the natural gas supply.

Q. Mr. Hagenah, have you made an examination of markets other than that of Pittsburgh to which this gas would go?

A. I have examined the report of Mr. Davis in which he says that as an alternative to selling gas in the Pittsburgh district his valuation is sustained by the further fact that this company now has transmission mains connecting it with many other cities where it is possible to obtain higher rates for gas, and that to the extent of these other communities or markets being willing to pay a higher price for gas, the value being sustained thereon should be included [fol. 1161] in the rate base and serve as a justification for increased charges against the cities and consumers in West Virginia.

Q. Now, what have you got to say to that proposition?

A. That is another form of the exchange theory. It merely amounts to this. If Pennsylvania, Ohio and Kentucky, where the natural gas resources are not so well fixed and extensive as they are in West Virginia, are, because of the higher cost of fuel, willing to pay for this rich product a higher price as determined by their next available substitute measures, the saving between the price which they are willing to pay and which the community here has been paying may be capitalized against this public. That has operated in this form. When the cities in Ohio and adjoining states pay a higher rate, the gas companies ask the people of this community to pay higher rates or the gas will be piped out of the State of West Virginia. When the cities in West Virginia pay a higher rate the gas companies say to the cities in other states, "If the gas companies can sell their product at home there is no incentive for piping the gas a long distance and they must have higher rates at distant points." Then when these rates are granted the statement is made to other cities, "Unless you pay as high a rate as these cities are paying we [fol. 1162] will sell our gas where we can get the better prices. That has resulted in a vicious circle; and Mr. Davis has capitalized the natural gas reserves on the theory that the vicious circle constitutes an economic justification for the value which he has found, using that theory as measuring the saving in this field.

Leaving the criticism of his theory, and taking up the data which Mr. Davis compiled on which he based his estimate of the saving and value of the property, on the theory of delivering the output to Pittsburgh, it develops that the costs that he used do not properly reflect the cost of manufacturing producer gas. He proceeds on the theory that the costs which obtained as of December 31, 1923, will remain in effect substantially unchanged for eighteen years in the future. Practically every item of expense and every step in building up this large sum of thirty-two million dollars as the value of the gas field is based on his opinion or is purely an estimate, the entire structure being hypothetical and highly speculative.

I will not repeat all the instances in which estimates were made and the likelihood that other men, equally well informed and equally interested in the subject, would agree with Mr. Davis as to the costs

[fol. 1163] in each instance. It appears in this record that Mr. Uebelacker differs very decidedly with Mr. Davis as to the value of gas in Pittsburgh. Whereas Mr. Davis has computed it in great detail at 35 cents, Mr. Uebelacker believes that it can be sold there profitably at 30 cents per thousand cubic feet. That difference of five cents is so large that in order to find substantially the same value in this instance —because they do find approximately the same result—Mr. Davis applies the compound discount theory to bring his result based on a 35-cent rate down to his final conclusion; while Mr. Uebelacker, starting from a 30-cent value, does not use the compound discount theory. Therefore starting from two different bases and using two entirely different methods, which in principle should be correct either one way or the other, they arrive at substantially the same conclusion.

Q. Just at that point, Mr. Hagenah, will you please, for the record, state the method that Mr. Uebelacker uses in arriving at his conclusion?

A. Mr. Uebelacker has used a method which has more economic support for it, except that it also does not apply in the appraisal of a public utility natural resource. Mr. Uebelacker has taken a number [fol. 1164] of contracts and determined how much the United Fuel Gas Company could save if it were to supply the same service to the purchasers under these contracts at the rates set up in the contracts. He finds that there is a saving of 5 cents per thousand cubic feet, as measuring the value of the gas underground. One of the six contracts or bases is the possibility of selling the gas product in Pittsburgh at 30 cents per thousand cubic feet, as opposed to Mr. Davis's computed cost of 35 cents per thousand cubic feet.

Q. Well now, do you know of any reason why the compound discount factor should not be used in the one case as it is in the other?

A. If you are determining the present value of the reserve the compound discount factor should be used in both instances.

Q. And why?

A. The situation is somewhat confused and is treated inconsistently because Mr. Davis is really appraising a property on the basis of its probable sales value. Mr. Uebelacker is selling the product over a period of eighteen years; but a purchaser investing his capital in a sum which would be returned to him over a period of eighteen years would certainly discount the price which he paid for it, be- [fol. 1165] cause he would not receive a full measure of return on his capital unless he did discount it based on the rate at which the gas is actually going to be sold.

Q. In other words, his method would be a proper one provided that all the gas which the United Fuel Gas Company has could be produced and delivered this year, or within a certain limited time?

A. Yes, but it is open to other defects, because it is purely the exchange theory.

Q. We'll go ahead.

A. It is capitalizing a monopoly power to earn. It is not reflecting the value under public regulation. If you can capitalize the monopoly power to earn then regulation ceases to have any worth. If regulation has any value or effect, then it must apply to the very

purpose which it was created to cover and to protect the public against such exploitations. Both engineers have proceeded on the theory that this Commission does not exist as an administrative body, and that there is no law regulating the use of a natural gas resource when devoted to the public service. They are, however, appearing before this Commission and asking for an increase in rates on the accepted theory that there is such a law.

[fol. 1166] I show on page 13 the enormous increase that has taken place in wages, as shown by the United States Bureau of Labor, and raise the question as to the likelihood that this high schedule of wages and labor costs per unit of production will remain unchanged for 18 years in the future. History records no such instances and gives no support for the theory of Mr. Davis.

To better show the extent of the tremendous increase in wages, I have produced in graphic form the table which appears on page 13.

I also want to call attention to Mr. Davis basing his cost of gas in Pittsburgh on the market price of coal as of December 31, 1923. There is no justification for his view that the market price of coal as of that day will remain the fair price of coal for 18 years in the future. I have prepared a separate memorandum setting forth the conditions which now obtain in the coal industry, why it is so disturbed and distressed, the conditions which are operating to take the industry through a deflation, and the steps that must be taken to remove the artificial forces which have been applied to stimulate coal production and protect certain interests in that business, and how they have operated to destroy and hamper, rather than to benefit, the [1167] industry. No study of the coal situation, especially not in this part of the United States, can be made without coming to the conclusion that while the industry will emerge before long when the artificial barriers are removed on a more prosperous basis, this readjustment will be accompanied by a decline in the price of coal to the consumer.

Q. You say you have prepared a study on that, Mr. Hagenah?

A. Yes, sir.

Mr. Diederich. We ask that that be filed as "Hagenah Exhibit No. 3."

Hagenah Exhibit No. 3.

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

Q. Now, Mr. Hagenah, if you have anything you wish to say about this exhibit, in a brief way, you may just proceed.

A. Exhibit 3 is an analysis of the conditions which are now operating to bring about a lower price of coal to the consumer. It analyzes the changes which are now under way in this industry, bringing it through the period of deflation which followed the stimulation of the industry during the war. The coal industry is going [fol. 1168] through more or less the same cycle, at least as to the major influences, which were present in the agricultural situation and in such other industries as copper mining, tanning, cork packing and others that could be mentioned.

There is also a discussion of the substitutes that the public has resorted to to get away from an artificial price level that has been created in the coal business, and the steps that the electric industry is taking, which will result in a material reduction in the use of coal, both through the development of hydro-electric properties and the construction of large central stations where the amount of coal per kilowatt hour will be reduced to approximately one and one-half pounds per unit of energy, whereas in many stations throughout the United States the production today is at the rate of from three to five pounds per kilowatt hour.

These forces are operating to reduce the total demand for coal, and will compel the closing down of the high cost mines which were brought into operation under the stimulus of artificial conditions, leaving the coal market on a much smaller capital investment and capacity to produce the Nation's supplies from those parts of the United States which are best endowed with the richest coal deposits. [fol. 1169] I do not want to be understood as having this testimony or memorandum on the coal situation interpreted as indicating unfavorable conditions for the coal industry in the future for any part of the United States. On the contrary, to avoid exactly that interpretation, I have added several paragraphs showing how, when industries have emerged from the period of deflation following the use of artificial stimulus, a greater prosperity has resulted than was present before. I show in this exhibit how that is now working out in these very coal fields in this state and in Kentucky. You have an editorial in one of your recent papers which I think touched on that very subject in a very excellent way.

Q. So that this exhibit No. 3 is given to reflect the uncertainties and the speculations that Mr. Davis has resorted to in figuring out the cost of producer gas over a period of 18 years.

A. Exactly.

Q. Now, Mr. Hagenah, have you made a study of the appraisal of the gas land and leasehold property of the United Fuel as furnished by Mr. Uebelacker?

A. I have.

[fol. 1170] Mr. Diederich: We ask that this be filed as "Hagenah Exhibit No. 4."

Hagenah Exhibit No. 4.

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

Q. Now, Mr. Hagenah, I wish you would explain that study and give us your conclusions and reasons therefor.

A. Mr. Uebelacker has appraised the proven and probably productive acreage of the company as of December 31, 1923, at $33,155,000.00. His estimated value of the unproven acreage is $3,294,000.00. The total value for the combined proven and unproven acreage, he says, is $36,449,000.00. The basis used by Mr. Uebelacker in arriving at this conclusion is set forth in one paragraph in his report, from which I read as follows:

"The measure of the value to the owner or lessee of gas in the ground is the difference between the prevailing market price at which said owner or lessee can purchase gas delivered to the field mains and the cost to such owner or lessee of producing and maintaining, with his own wells, an equivalent supply of gas at the same point of delivery."

In analyzing this principle it is necessary that three factors be de- [fol. 1171] termined. First, we must know the total cost to the owner or lessee of producing and maintaining, with his own wells and equipment, an equivalent supply of gas, corresponding in delivery conditions to those under which the gas is purchased. This total cost must include operating expenses and depreciation, amortization of the value of the equipment used, and a fair return on the investment.

Secondly, he must determine the prevailing market price at which gas can be purchased as controlled by delivery conditions, and, thirdly, he must determine the recoverable content or the amount of the gas.

It will be seen at once that Mr. Uebelacker is using the exchange theory. I have already explained the extent to which he had used this theory in answering Mr. Diederich's earlier question. I have, in this exhibit No. 4, discussed his reasoning and the error in which he has fallen, both as to the principal used and the application of his data. Without going into detail in the oral testimony, let me say that Mr. Uebelacker has taken six contracts or selling situations, under which he has determined the cost which the United Fuel Gas Company would incur if it were supplying the same service under [fol. 1172] such contracts and the savings or profits which it would make. Naturally, there are different margins of profit under each contract, and he concludes that a fair average is five cents per thousand cubic feet, and he multiplies the total recoverable content, as estimated by Mr. Davis, by this five cents and arrives at his value for the proven gas acreage. There is a great deal of speculation in each of these contracts because all the steps involved in determining the measure of profit are computations and opinions dealing with matters which are not present facts in the experience and operation of this company. No consideration is given to the capacity of the companies or the quantity of gas delivered. Apparently Mr. Uebelacker has given as much consideration to a profit of seven or eight cents per thousand cubic feet on sales that would not aggregate any more than one or two days' demand on this company's system as he has given to the profits of this company on an amount as large as reflected by the quantity of gas which this company actually purchased in the open market.

Again, these contracts, by their very nature, show that there is no competition between the companies, that each contract is based [fol. 1173] on the conditions peculiar to the business relationship between such producer and the gas company; that no consideration has been given to the life of the field of these different companies and the likelihood that one company may or may not be selling

at a lower margin of profit than another company, or that they may be able to get a larger profit because of the fact that these contracts, as a rule have not been made under state supervision. To the extent that this Commission has not been consulted and approved of the contracts under which he developed the margin of profit, Mr. Uebelacker is also capitalizing the monopoly power of the utility free from regulation.

Q. Well, have you considered in your exhibit the factor that these three or four companies that are purchasing gas from the independent companies have not the opportunity or the power to purchase its supply from the United Fuel Gas Company?

A. That is a factor to be considered and also shows the speculative basis and the general unreliability of such data as measuring the value of the huge gas reserves of this enormous company.

Further, it does not appear from Mr. Uebelacker's exhibit that these [fol. 1174] individual contracts of the different companies fairly reflect their operating conditions. Being without the supervision of this Commission, they may have made individual contracts, of which these may be examples, in which they made more or less profit than they made for their business as a whole, and on the basis of what this Commission would consider as a reasonable return. In each instance, the contract is apparently made by the two parties dealing at arm's length, the purchaser agreeing to pay such a price as he thinks will give him a profit in the particular unregulated field of competition in which he must sell his manufactured products. The price is not affected by the principles of regulation and the decisions which govern.

There is, however, one more serious objection to the data which Mr. Uebelacker has compiled. Mr. Uebelacker finds that the value of the gas in the field is five cents per thousand cubic feet. If we assume that the five cents measures the value of the product in the field, the company then stands in the position of buying its entire gas supply at five cents, purchasing the product at five cents per thousand cubic feet. The seller of that gas must take his return on the investment and any depletion charge, the entire retirement [fol. 1175] charge that he may wish to consider, out of the five cents. There can be no further charge included in the operating expenses of the company after the product is acquired at what Mr. Uebelacker says is the fair market price.

To illustrate, assume that the company was buying coal instead of gas. Could the seller of the coal, after he had received the market price for the coal, add thereto an allowance for return on his investment in his coal mine and for the depletion of his investment? If he added that to the cost that he had received in a fair market for his coal, would he be able to sell it? Would he not, by that very act, reach a price in excess of the market price? He who sell a product from his resources must reap his profit out of the price which he accepts.

Now, if the market value of gas is five cents, as found by Mr. Uebelacker, and we accept that for the purpose of illustration, the company then stands in the position of buying its entire output at

five cents per thousand cubic feet, and there can be nothing added for rate of return or depletion pertaining to the investment out of which that product of gas has issued.

Q. Then your position is that for the gas which the company has, [fol. 1176] the company should treat that particular gas that it delivers each year on the same basis as it does the gas that it actually purchased in the field?

A. Yes, that is the inevitable conclusion to be drawn from Mr. Uebelacker's testimony. He finds that the gas is worth five cents in the open market. If that is true, and the company stands in the position of buying it at the open market price, how can the public, after paying the open market price, be asked to assume certain fixed charges on the source of production from which that gas product was obtained?

Q. He reaches that five cent value after he deducts the cost of the lifting of the gas to the top of the ground, the drilling of the well, of the equipment, the abandonment of the well, and everything, and after deducting all those items he comes to the conclusion that the gas in the ground, net, has a value of five cents per thousand cubic feet, is that right?

A. That is what he states as his conclusion. That must be the inevitable conclusion to be drawn from his testimony, because when we apply the principle which Mr. Uebelacker has accepted to other commodities, we know that the result which I have stated follows. [fol. 1177] We have recently had a splendid illustration of that, also applied to a natural resource. I refer to the situation which has obtained in the copper mining industry for the last three years. We have a number of very important copper producing corporations. One of the largest is the Anaconda Copper Mining Company. It is a high cost producer. Other large companies, and very favorably situated and low cost producers are the Kennicott and the Chile Copper Company. The Anaconda Copper Company has enormous copper reserves, but its cost of mining was eleven cents per pound during one of the recent years, being years of depression. Th market price for copper during that time was thirteen cents. Chile Copper Company and the Kennicott Co-per Company had mining costs of six cents per pound, while the market was thirteen cents per pound.

Applying Mr. Uebelacker's theory, the value of the Anaconda Copper Company's copper reserves was the difference between eleven cents and thirteen cents, or two cents per pound. The value of the reserves of the Chile Copper Company and other companies favorably situated was the difference between their cost and the market, which, by way of illustration, let me say is seven cents per [fol. 1178] pound. Here we have a competitive condition. In a thirteen cent market which company is most favored? Naturally, the low cost company. They had large values for their reserves. They stand in the position of the United Fuel Gas Company. But when the Chile Copper Company sells its copper at thirteen cents, which consists of seven cents for the value of the copper in the

ground plus six cents, the cost of bringing it out, and then takes advantage of the thirteen cent price in the market, can it go to the purchaser of copper and ask him to pay, in addition, a return on the investment of the Chile Copper Company in its mines? Can it further ask the buyer of copper to pay it a sum to cover depletion of its stock? The Chile Copper Company, and any copper company, must take its rate of return or profit and its depletion charges out of the market price, because the market price means the price at which competitive conditions force the sale of the product; and anything added to the accepted market price immediately destroys the assumption, namely, the market price.

In this instance, therefore, the operation of the copper company, where there is competition—and this shows the impropriety of Mr. [fol. 1179] Uebelacker's theory, because there is no competition in the natural gas business—the Chile Company and the Kennicott Company operated at a much larger percentage of capacity when copper was thirteen cents a pound than did the Anaconda Company. The Anaconda Company had to pass its dividend in spite of its enormous copper reserves, because it had no margin of profit over the cost of operation. Now that the price of copper has gone to fifteen cents, Anaconda Company restores its dividend. Kennicott Company is promising its stockholders to increase its dividend, based upon the competitive conditions and the natural advantages which result from the greater value of the reserves, and these, in turn, based on the lower cost of producing.

Now, the United Fuel Gas Company, Mr. Uebelacker says, has a value of five cents per thousand cubic feet in the ground, because that is the market. That corresponds to the thirteen cent price of copper. When it takes this gas at five cents per thousand cubic feet, it has paid everything that directly or indirectly enters into the operating cost or the fixed charges of the reserve, exclusive of the cost of lifting the gas out of the ground, because that has been [fol. 1180] taken care of through other operating charges.

Q. Mr. Hagenah, assuming, for the purpose of the analysis here, that the fair value of the gas lands and the leaseholds are substantially the amount which has been testified to by both Mr. Uebelacker and Mr. Davis, have you made any study of the proportion that is presently used and useful in the service of the United Fuel Gas Company?

A. I have.

Mr. Diederich: We ask that that be filed and made "Hagenah Exhibit No. 5."

Hagenah Exhibit No. 5.

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

Q. Will you just explain this exhibit, Mr. Hagenah, in your own words—No. 5?

A. I have attempted to show in the analysis of the testimony in

exhibits by Mr. Davis and Mr. Uebelacker that their valuation results were obtained through the use of improper valuation methods, and, further, were based on hypothetical conditions and speculative data. Assuming now, for the sake of further analysis of the subject that their conclusions are substantially right, but not admitting [fol. 1181] the accuracy of either their methods or results, assuming that the value for the gas reserves is approximately $33,000,000.00, it is my belief that not all of such value is presently used and useful. The whole development of public utility regulation has recognized that the return should apply only on a rate base which will include no more property than is presently used and useful in the public service. I believe that an 18 year reserve, even though it be worth $33,000,000.00, and even though it is desirable to have the company own such reserve, is not property used and useful in its entirety.

I believe that it is the settled rule that only such a part of a company's resources as is used and useful should be included in the rate base. I come to this conclusion from a study of some Court and Commission decisions. I state, on page 2 of exhibit 5, the recent expression of the Pennsylvania Supreme Court in finding that the value of the gas reserves is to be considered in the appraisal of the property, but it says that not all of such value need be regarded as used and useful.

How much of the company's gas reserve is used and useful at any one time is, of course, open to differences of opinion and argument. [fol. 1182] I have assumed that in this instance a five years' supply, covering future requirements, is a reasonable amount to include in the rate base. If the gas reserves are to be appraised on a basis of the exchange theory, then only that part of the $33,000,000.00 reflected by 5/18, based on an 18 year life, is presently used and useful, and the returns should apply on such sum.

To illustrate the application of the used and useful principle as applied to natural gas reserves, I have prepared a blue print which is incorporated in exhibit No. 5 and shows the natural gas reserves in the form of a rectangle. A, C, F, D bound the points of this rectangle, and they represent the appraised present value of the gas reserves at $33,000,000.00, covering an 18 years' supply. The marked or shaded portion embraced in the vertical rectangle A, B, E, D, represents the present value of the gas reserves, assuming a five years' supply to be a reasonable amount to include in the rate base on the exchange theory of value. The horizontal rectangle, G, I, F, D, represents the book cost of the gas reserves covering an 18 years' supply, stated by Mr. Jirgal to appear on the books as $6,700,000.00. The areas marked by B, C, F, and E, represents that part of the 18 [fol. 1183] year reserve which is not presently used and useful.

At this point, an important question of policy and possibly of law enters, and I call attention to it so that the two possible conclusions may be presented for the consideration of the Commission. In the first instance, this company has acquired the natural gas reserves as a part of its business. The acquisition reflects the skill and judgment of its executives, who have been hired because of their skill

and judgment, and as such are compensated by the company, and such compensation included in the cost of the gas. Now, the question arises, the cost of acquiring this property so long in advance of immediate needs having been borne by the public, can the officials, representing the stockholders bring this property into use for the public on a basis which results in a large profit to them, after the public put in its way the facilities for its acquisition? If the principle agent or trustee applies here to any extent, can the officials of this company, as officials of a public utility, with all that that term means, acquire an 18 year gas supply at a cost shown by the books to be $6,700,000.00, to meet an 18 year supply, and then, having [fol. 1184] obtained it for the public use, bring it into the rate base at a valuation of $33,000,000.00, by the use of an exchange theory that in the first instance does not apply?

Q. And in the mean time, during that 18 year period, the public also, or the consumers, also, paying for the carrying charges of the 18 year supply?

A. That is correct. If the public has been charged with the cost of acquiring and carrying these properties, does not the profit which results from economic law and the growth of wealth, population and use generally resulting during this condition, inure to the benefit of those who carried the cost of acquiring and obtaining it? If the property is to be included in the rate base at its value, as here determined, that value can apply only to so much of the property as is used and useful. If the entire property acquired by the company is to go into the rate base, it cannot go in at any price or value higher than that at which the public has been charged for its acquisition and carrying it.

Two possible lines of analysis and two conclusions results from the study of this diagram, and they appear on page 7. I read from them as follows:

"First. Assuming that a five year gas supply is a reasonable [fol. 1185] measure of the reserve presently used and useful, and also assuming, for this purpose, the accuracy of the appraisals made by the company's engineers, there should be included in the cost of service a return on only 5/18 of the value of the gas reserves, the remaining property of this class being carried as an investment by the company at its own expense until such time when it is used and useful, when it will be included in the rate base at its then present value."

In other words, if it is acquired for the purpose of speculation against the public, and the value of the reserves is the basis at which it is to go in the rate base, then such value can apply only to the part which is directly dedicated to the public use and made used and useful. It cannot apply to the property which is not used and useful, because the public is paying the carrying charges on it, and cannot also pay for the economic increment at the same time.

Judge Ritz:

Q. How would competition affect that situation? We have several gas fields in the country, and they are all scrambling for gas leases.

A. Yes, sir.

Q. Say this company, in order to protect itself, had to acquire [fol. 1186] pretty heavily at a time when it did not need it and probably did not desire it, how would that affect the situation?

A. That would only make it all the more important that this theory be not accepted, because if the company is taking advantage of a condition to increase the cost against the public, the public should get the benefit of their foresight and wisdom. The company cannot take advantage of this condition, which it clearly foresees, in the spirit of protecting the public against these conditions, and then capitalize it against the public. Where does the public gain in the slightest degree by the company going out and buying this gas land in the future if it must always pay for it on the basis of its gained value as determined by competitive conditions?

Q. It would gain by the fact that it had the gas rather than somebody else having it.

A. It would gain by the fact that it had the gas, but it would pay a price for it purely determined by the monopoly power. It would be better off if the companies never bought the gas in advance, but went out and bought it under conditions under which they are seeking to capitalize it against the public, when, as and if they [fol. 1187] are bringing it into the used and useful property. If they exercise the foresight now and acquire it, the public should have the benefit of it, because it is asked to pay for it. If it is not asked to pay for it, then it must pay a return on the value when those who have exercised that foresight at their own hazard, bring it into the rate base.

Now, the second alternative is as follows: Adopting the same assumptions as are set forth under A above, there should be included in the cost of the service a reasonable return on 5/18 of the value of the gas reserves and a return at the same rate on 13/18 of the book costs of such reserves.

Now, that means this, that if the officials, exercising that foresight to which reference was made, acquired an 18 year supply, and the gas reserves are to be appraised on the exchange theory of value, then that part used and useful should be included on the market value basis, but certainly the public should pay no more than a return on the actual cost of acquiring the gas lands held for future use.

(At this point, 11:45 o'clock a. m., a recess was taken until 2:00 o'clock p. m.)

[fol. 1188] Afternoon, Two o'clock

Mr. Diederich:

Q. Mr. Hagenah, just before the recess hour you were discussing the presently used and useful part of this property, assuming a figure

of $33,000,000.00 being the value of it. Judge Ritz asked you whether or not, in fixing a part of that property as presently used and useful, you had taken into consideration the question of competition. You made an answer to that that I didn't quite understand. Will you please explain whether you did or did not consider the question of competition, or whether it is a necessary element in fixing a certain amount for the rate base.

A. It is an important factor to consider, and it is considered in the material on which my testimony is based. The appraisals by Mr. Davis and Mr. Uebelacker recognized conditions as they were in 1923, and recognized a certain amount of competition which prevailed at that time. I am taking 5/18 of that value as reflecting the amount now used and useful. It is necessary to do that if the question of value as determined on behalf of the company is accepted as the basis on which the 5/18 is to apply. Under the theory [fol. 1189] used by the company, the natural gas reserves will, each year, increase in value under all normal conditions and the cost to the public would therefore increase. The valuation might reasonably be on their theory $33,000,000.00 today and four or five years from now, if the anticipated competition develops the valuation might rise to eighty or ninety million dollars, in which event the public would again be asked to pay a return on that high value. The higher the unit cost on which they base their testimony, and the greater the competition, the greater the value, so the only protection the public has, if the exchange theory of value is to be considered at all, is to include in the rate base only that part of the resulting value that is used and useful. To that extent it is the necessary protection the public has in the face of a growing competitive condition.

Q. Then do I understand you to say that the question of competition or as to whether there is or is not competition, either decreases or increases the value of the gas in reserve?

A. On the exchange theory the increased competition would advance the value of the company's gas, with consequent ever increas- [fol. 1190] ing costs to the public. If the public has been paying the carrying charges, which the company has incurred to protect itself against this competition, then the public should be protected against the high costs which result from that competition, the carrying charges being its insurance against such excessive costs.

Q. Having studied the exhibits submitted by Mr. Uebelacker, what comments, if any, have you to make with reference to the methods which he has adopted in providing for depreciation and amortization?

A. I believe he has developed his depreciation and other annual charges on an incorrect basis. The percentages which he has computed are applied by him on his estimated value of the property. In my judgment, those percentages should apply on the actual cost of the property. The purpose of setting aside a depreciation reserve and the purpose of an amortization reserve is to maintain the integrity of the investment. The owner is to be protected in the actual prop-

erty that he has sacrificed or devoted to a particular use. He is not to be protected in any speculative ventures outside of that particular sum. If there is an appreciation in the property, he is compensated by having his return figured on the value of the property. The [fol. 1191] public can be charged only with the amount necessary to maintain the integrity of the investment. A reserve charge of this kind cannot very well be applied on an uncertain or fluctuating principle. If the property appreciates in value, both the return and the depreciation would be bringing the investor a measure of profit. He is entitled to the profit resulting from the increased value, but cannot also have that appreciation retired through the depreciation reserve. If the property depreciated through adverse economic conditions he would still be entitled to the protection of his principal for the amount that he has actually made a sacrifice, while his return would then be computed on the present value of the property, even though that were lower than the actual cost. That would be necessary because of the competition that would be produced through incoming new capital. It is the purchasing power or worth of the investment on which the rate of return applies.

Q. So that, as I understand you, the value which you fix on the leases goes into the rate base for the purposes of the return——

[fol. 1192] A. To the extent the value is to be considered.

Q. Yes. Whereas the depletion or amortization as to that your position is that only the money costs should be collected from the consumers and handed back to the company?

A. That is right.

Q. On a method adopted by Mr. Uebelacker, they not only get the return on the increased value as estimated by him, but in addition to that make a profit over and above the actual cost in the form of a depletion charge?

A. Yes, sir.

(Objection.)

Q. Mr. Hagenah, have you prepared a statement showing the distribution of the net earnings of this company available for depletion and depreciation and the return of reproduction cost less accrued depreciation, with the gas valued at five cents in the ground?

A. Yes, sir.

Mr. Diederich: We wish to offer this as "Hagenah's exhibit No. 6."

Hagenah Exhibit No. 6

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

Q. Now, Mr. Hagenah, will you please take that exhibit and make [fol. 1193] such explanation with reference to it as you desire?

A. Exhibit 6 is designed to show the per cent that the company is earning on its reproduction cost new less accrued depreciation if the value of gas in the ground is said to be five cents per thousand cubic feet and the company is assumed to buy its entire product that

it is now producing from its fields at such five cents. The first part of the table is devoted to the determination of the investment or other value of the property. These data are taken from exhibit 1, the adjusted appraisal exhibit which I offered this morning. I have excluded from the total the book cost of the gas leases. There is included in the rate base, then, only that property which the company owns, beginning with its facilities for raising the gas and distributing it. The gross earnings are shown as per the company's books, testified to by Mr. Jirgal. The operating expenses have also been taken from Mr. Jirgal's exhibits. Since, however, this table contemplates the purchase of the gas now produced on the theory that the company is buying this from an owner who is meeting all the costs incident to carrying his investment in productive fields, [fol. 1194] I have excluded from the operating expenses those accruing charges incident to carrying the present gas reserve, that is, the leasehold expense, rentals on unoperated acreage and royalty expenses.

There is included among the operating expenses a charge of five cents per thousand cubic feet for the gas purchased in lieu of the items taken out of the operating expenses, and also that part of the property that is not included in the rate base on this theory.

These accounts have then been distributed over the major operating divisions of the company, showing the amount apportionable to the city of Charleston, city of Huntington, city of Williamson, other sections of West Virginia, and then the total is shown for West Virginia. I further show the total for Kentucky and Ohio and for the wholesale service. The last column shows the total for the company as a whole. The value of the property, exclusive of the leasehold investment, but including the allowance for working capital and going concern value, is $27,959,180.00. The total gross earnings are $9,225,673.00. Among the operating expenses appear the items, as per the company's books, exclusive of those charges pertaining to the leasehold investment as carrying costs, and also the charge of five cents per thousand cubic feet for that amount of gas [fol. 1195] which the company is now producing, but which it is supposed would be purchased at the fair market price as determined by Mr. Uebelacker, that payment would be $1,868,524.00. There has further been an adjustment of fifty per cent of the gasoline net revenues, making the net operating expense $3,486,147.00. The gross income is, on this basis, $5,729,526. Deducting income taxes, the net earnings available for depletion, depreciation and return are $5,417,180.00. This amount, on the company as a whole, indicated a return of 19.38 per cent. For the city of Charleston the return on this basis is 19.18 —, for Huntington it is 10.79 per cent, for Williamson it is 12.70 per cent. For the remainder of West Virginia, it is 17.16 per cent, and the total for this state is 15.81 per cent. The ratio for Kentucky and Ohio is 23.34 per cent, and on the wholesale service, 20.14 per cent.

Q. Mr. Hagenah, you stated that in making up this total you had excluded the cost of the gas leases or leaseholds.

A. Yes, sir.

Q. Will you please state the reason for having excluded that item of cost?

[fol. 1196] A. If the company is buying its gas at a fair market value it could not also have included in the rate base the facilities or source of production on its own account. The income or return and the depletion charges which would be applicable to the investment in leases must come out of the five cents which is the market price for gas. Not to deduct it from the rate base would therefore result in a straight duplication.

Q. And is that the same reason for which you have eliminated the carrying charges for the leases?

A. Yes, the carrying costs must come out of the five cents per thousand cubic feet collected by the owner of the gas reserves, when five cents is the fair market price of gas. If they can make more than eight or nine or ten per cent on any part of their leases, that is their good fortune because of the favorable condition in which those leases are situated and their natural advantages. If they cannot make a return of eight per cent from those particular leases that is their misfortune, and not the loss of the public. If the fair price is five cents per thousand, gas cannot be sold at any higher price.

Q. Mr. Hagenah, you say that you have taken the figures of valu-

[fol. 1197] ation which are shown in your exhibit No. 1 in making up this table. Approximately what would be the difference in the return if Mr. Uebelacker's figures were taken instead of yours?

A. It would be a rather lengthy computation, but it would be indicated by this adjustment. Mr. Uebelacker shows his reproduction cost less depreciation, including the gas reserves, to be $66,070,000.00. His present value of the gas land leases and natural gas rights is $3,000,000.00, leaving his present value of the property exclusive of those leases approximately $30,000,000.00. To that should be added $3,000,000.00 for going concern value, making his total $33,000,000.00, which compares with my total of almost $28,000,000.00. His basis would be $5,000,000.00 more than mine on the basis that you have asked me to consider. And that difference is explained by the fact that I have used a lower amount for overhead charges than Mr. Uebelacker did, and on my theory of amortization the present value, in some instances, being determined on a straight line basis, is somewhat lower than his. Otherwise we are in agreement as to the basis.

Q. And what effect would be reflected in this exhibit if you accepted the price for the gas in the field where the United Fuel Com-

[fol. 1198] pany purchased its gas at eight cents per thousand cubic feet?

A. The lifting cost of the gas being approximately five cents a thousand cubic feet, the value of the gas under ground on that basis would be about three cents per thousand cubic feet, and would make the return larger.

Q. Mr. Hagenah, have you prepared a statement showing the amount and per cent of returns earned upon the cost of reproduction less depreciation if gas is valued at five cents per thousand cubic feet in the ground?

A. Yes.

Mr. Diederich: We offer that as "Hagenah Exhibit No. 7."

Hagenah Exhibit No. 7.

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

Q. Will you make such explanation of that as you desire?

A. Exhibit 7 is based on exhibit No. 6, but carries the analysis one step farther. It will be noted that the first column, showing the cost of reproduction new, is taken directly from the total investment figures appearing in the total under the first group, near the top of [fol. 1199] exhibit 6. The second column figures are taken from the black figures at the bottom of exhibit 6. There is next computed depreciation at the rate of 5.5 per cent on the book cost of the property. This aggregates $1,097,807.00. The net earnings available for return are then $4,320,173.00, equivalent to an income of 15.45 per cent on the appraised value of the property. This income arranges from 6.84 per cent for Huntington to 19.40 per cent for Kentucky and Ohio. The average for the state of West Virginia is 11.88 per cent. The allowance for depreciation shown in red figures in the third or middle column is taken from the testimony of Mr. Jirgal.

Q. Mr. Hagenah, have you made a study and compiled the same with reference to crude petroleum and gasoline production and consumption and stocks during the last few years?

A. Yes, sir.

Mr. Diederich: We offer this as Hagenah exhibit No. 8.

Hagenah Exhibit No. 8.

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

Q. Will you please give us an explanation of that paper, Mr. [fol. 1200] Hagenah?

A. Exhibit 8 sets forth the statistics contained in recent official publications regarding the amount of crude petroleum production, the crude petroleum consumption, the gasoline production, the domestic gasoline consumption, the gasoline stocks at the end of each month and the number of days' stocks of crude oil on hand. There are two columns under each of the six headings mentioned. The first shows all statistics in absolute terms, while the second column shows the index numbers for the date in question. The information is given in terms of monthly averages for each of the years from 1913 to 1923, inclusive, and then the actual monthly figures are given for each month in 1923 and 1924.

The purpose of this exhibit is to show, first, that there was a very unfortunate and unusual condition in the oil industry in 1923 and a part of 1924, but that the industry is now working rapidly into a more improved condition. The crude petroleum production is now falling off from the heavy outpouring during 1922 and 1923, when the California fields were breaking all records. This is shown in the terms of millions of barrels, and also in the index number. While [fol. 1201] crude petroleum production is now falling off, as com-

pared with a year ago, consumption is increasing. In other words, both forces are now working to the advantage of the oil industry. Gasoline production is high, and domestic gasoline consumption is breaking all record, the consumption running from 15 to 20 per cent in excess of last year, and now being much heavier in the winter months than it used to be because of the large increase in the number of closed cars and trucks which operate during the winter months, which condition was much less prevalent one or two years ago. The amount of gasoline stocks is also being reduced, and that is further reflected in the amount of oil on hand.

Q. What do you know about any increases in gasoline within the last thirty days?

A. There are frequent increases in the price of gasoline reported. The Standard Oil of New Jersey has announced increases of two cents a gallon in the New England states——

Judge Ritz. I don't think this witness ought to go on and testify to all sorts of newspaper reports and rumors. There are plenty of people that know about what the price of gasoline is without testifying about rumors.

Mr. Diederich. Strike out the question and the answer please.

[fol. 1202] Q. Mr. Hagenah, do you know whether the price of gasoline within the past thirty days has increased or decreased?

A. Increased.

Q. Do you know how many increases have been made in the past thirty days in the price of gasoline?

A. No, I don't know how many have been made, but they have been extensive and covering large sections of the United States.

Q. Mr. Hagenah, have you prepared a statement showing the apportionment of investment and expense between gasoline and gas departments and the percentage available for depreciation for the year ending December 31, 1923?

A. Yes.

Mr. Diederich. We offer this as "Hagenah Exhibit No. 9."

Hagenah Exhibit No. 9

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

Q. Will you please make such explanation of that as you desire?

A. Exhibit No. 9 is designed to show the investment of United [fol. 1203] Fuel Gas Company that is used for the joint benefit of the natural gas and the gasoline department, and also the operating expenses that are incurred for the joint services. I have made an analysis of the appraisal report made by Mr. Uebelacker, and have deducted therefrom that property that is devoted in part or whole to the benefit of the gasoline service. The production system is 100 per cent, or $14,122,814.00, devoted to this service. Of the transmission system, which embraces 450 miles of lines, 55 per cent is not charged in any way with a gasoline service. The general prop-

erty has been divided between the gasoline and the gas service in the proportion to the directly assignable property and that apportioned as above. I have then added to this property the 18 per cent for overhead charges, making a total joint gas and gasoline property of $21,063,928.00. The ratio of the gross earnings between the gas and gasoline service is as follows: 75.38 per cent of the gross revenues comes from gas and 24.62 per cent from gasoline. There has been deducted from this joint property 24.62 per cent, or $5,185,939.00, leaving as property assignable entirely to the gas service $15,877,989.00.

[fol. 1204] To check the appraisal, there is then added back the balance of the transmission system, namely, 55 per cent, all local distribution systems, the remainder of the general property and the overhead charges applicable thereto. This, when increased by the working capital and going concern value allowances, brings the total gas department investment to $29,506,161.00, as against $5,185,939.00 devoted to gasoline business. The total is $34,692,100.00, or the appraisal result.

The next step was to make an apportionment of the operating expenses, and the same general principle was followed. The production expense and the gas purchase cost have been charged entirely to the gas department. 45 per cent of the transmission expense has been charged to this department, because 45 per cent of the investment was charged to it. The general expense was distributed on the basis of the assigned operating expenses to the two services, making a total joint gas and gasoline expense of $2,176,958.00. The gasoline proportion of the joint expenses distributed on the basis of the gross income is $535,967.00. The joint property taxes assignable to the property investment belonging to the gasoline department are $71,595.00, making a total operating expense assignable [fol. 1205] to the gasoline department of $607,562.00. In other words, if there was no separation made between the gasoline and the gas department, or no credit given to the gas department for gasoline revenues, it would be necessary to make an adjustment of the operating expenses, which, as accounts are now kept, include approximately $607,000.00. This amount is now incurred on account of the gasoline department, and should not be charged against the gas service.

The present value of the property assigned to the gas department, as shown in the first division of this exhibit, is $29,506,161.00. The net earnings of the company, before depletion and depreciation, as shown by exhibit No. 1 of Mr. Jegal, is $6,504,270.00. If we deduct from these net earnings fifty per cent of the gasoline net earnings, there is a total of $5,569,876.00, which represents the net earnings before considering the gasoline business. Adding back the gasoline proportion of the joint expenses determined above, namely, $607,562.00, there is shown in net earnings, after adjustment for gasoline, $6,177,438.00, this amount being available for depreciation, depletion and return. This is equivalent to a return of 20.94 per cent.

[fol. 1206] Q. Is there any other comment on that, Mr. Hagenah?

A. No, sir.

Q. I will — you whether you preparted an exhibit and statement showing the per cent earned on the various valuation bases made by you and by others in this case?

A. I have.

Mr. Diederich: We wish to offer that as "Hagenah's Exhibit No. 10."

Hagenah Exhibit No. 10.

(The paper referred to was filed, marked as above indicated, and is hereto appended.)

Q. I wish you would explain this, Mr. Hagenah.

A. Exhibit No. 10 is by way of summarizing the effect of my testimony and that by Mr. Jirgal. I show the effect of these various adjustments as reflected in the per cent return on the valuation. Five different comparative studies are made. The first column shows the return based on the present value of the property as determined in my exhibit No. 1, including the gas reserves at their book cost. The net earnings before depreciation and depletion are taken from Mr. Jirgal's exhibits in each case. The provision for depletion and depreciation is likewise taken from his exhibits, and [fol. 1207] the deduction of the provision for depletion and depreciation shows the net earnings available after depletion and depreciation, the return earned by the Company on the basis of the present value of its property with the gas reserves included at their book cost is 14.72 per cent. If, instead of carrying gas reserves into the rate base at the book cost, we assume that the value of the gas reserves is approximately $33,000,000.00, and that only the part presently used and useful shall be included in the rate base, or 5/18 of such appraised value for the reserves, the return is 13.75 per cent. The rate base in this instance is somewhat greater, because 5/18 of thirty-three million is more than the book cost of the gas reserves.

The third column shows the return computed on the book cost of the entire property—that is, without any adjustment to reflect the increase in cost due to advancing labor and material prices. On this basis the return is 10.86 per cent.

The fourth column shows the return to the company on the basis of Mr. Udelacker's testimony that the gas in the ground is worth five cents per thousand cubic feet. Eliminating from the rate base the investment in the gas reserves, and eliminating from the operat- [fol. 1208] ing expenses the charges incident to carrying such reserves, and adding back in the place of those two items five cents per thousand cubic feet for the gas produced by the company, the return is 15.45 per cent. Making adjustment for the gasoline department, and treating the gas business as a utility by itself, taking from both the plant and from the operating expenses the items chargeable to this business, or, in other words, making an adjustment for a part of the profits from the gasoline business to cover the services performed for that business and the part of the property devoting to that service, the net return is 20.94 per cent. This latter percentage,

however, is before making any provision for depletion and depreciation. To make the latter adjustment was rather involved, and I did not have the time to carry the study farther. Some substantial provision would have to be made for depletion and depreciation, but I cannot say by what percentage it would vary from the other figures on that same line.

Q. This covers the entire property of the company—this study?

A. Yes, sir.

Q. Mr. Hagenah, have you had occasion to examine the exhibits filed by Mr. Jirgal, or have you examined the books of the company [fol. 1209] with reference to the depreciation account of the company?

A. I have not examined the company's books. I am fairly familiar with Mr. Jirgal's exhibits.

Q. What have you to say with reference to the method of depreciation and the amount of depreciation which the company has charged to operating expenses during the year 1923?

A. As stated in Mr. Jirgal's exhibit—I don't recall the number of it—the company makes a provision for depreciation at the rate of 5½ per cent on the gas property, and a somewhat lower percentage on another branch of its business. Do you have the exhibit with you?

(Objection.)

The Witness: I don't — what number of the exhibit that appears in.

Mr. Diederich:

Q. The Jirgal exhibit shows an amount in excess of $10,000,000.00 to the credit of the depreciation account.

A. Yes, that appears in the balance sheet of the Company.

Q. Yes, sir. Now, what have you to say with reference to how that amount of credit should be treated in the consideration of the [fol. 1210] earnings or charges of the company?

A. I beg your pardon. I didn't understand your first question. The amount which the Company has set up for depreciation, as shown in its balance sheets, has resulted in a large credit balance. In property having a limited life, such as a natural gas company is here, the life being limited by the life of the gas reserves, this depreciation reserve has been charged against the public on a basis which contemplates its retirement; and under that principle it should be treated as a return of that amount of the investor's money, unless actual replacements are being made. To the extent that replacements are being made the property is being kept intact and the public should be charged with a full return on that investment. Where, however, no replacement of the property can be made, because it will outlive, or at least live as long as, the life of the field, the capital is being returned to the company and is being used elsewhere. It may be used in other natural gas property or it may be used in entirely different fields for productive income. A deduction of the amount of capital

which has been paid back on that part of the property that need not be replaced should be reflected in the rate base. Further, to the extent [fol. 1211] that the company is using the money collected through depreciation for replacement purposes, but has not drawn on that reserve because the replacement is not yet necessary, the public should receive the benefit of the interest earned by that sum of money. The interest thus earned by the depreciation reserve balance should operate to reduce the charge against the public for depreciation or depletion.

Judge Ritz That is, you deducted the accrued amount in your investment and also charged depreciation on the amount that was accumulated in the reserve, is that correct?

A No. Where the depreciation is set up with a view to replacing the property, and it has to be replaced, there the depreciation reserve shall not be deducted from the rate base to find the present value, because that property is being held, in substance, in trust for the public, and therefore is a part of the rate base. Where, however, the property is not to be replaced, then the charge is equivalent to an amortization of the property, and to the extent that it is being amortized the rate base should be adjusted.

Q How would you have any fund, Mr. Hagenah? If only a [fol. 1212] sufficient amount of this fund is used to make replacements that are actually needed, and the balance of it is charged into the amortization fund or the fund used for the purpose of retiring investment, where would you get any fund to charge any interest to?

A If it was set aside on your basis probably there would be no such fund, but I am referring to the actual practice of this company, where there is such a fund.

Q Do you find any account any place where it is shown just what amount they have used for actual replacements?

A It is shown in Mr. Jirgal's exhibit what they have used before. Mr. Jirgal shows that the depreciation reserve has been drawn on for some replacements, but most of the charges against that reserve have been for abandoned acreage and wells and not for partial retirements of the property still in service, like distribution system or transmission mains.

Q What I had in mind was the decision of our Court, where that plan was suggested which you suggested here, and they didn't seem to approve it very much. It was something along the same line of charging interest on the reserve. That extended to the full amount [fol. 1213] which had accumulated in the reserve.

A Well, the reserve must be considered in two divisions, just as the property is in two divisions. That part of the property that is being replaced during the life of the reserve is properly subject to a depreciation, and to the extent that money has accumulated for that purpose it is protected, but there should be no reduction in the rate base. As to the second part of the property, which will never be replaced, there the amount that the company has charged against the public for the retirement of that property is an amortization of capital. Unless an adjustment is made in the rate base on account of the amortization, the public is charged with giving back a part of

the capital, and nevertheless charged in addition with a full return on it.

Q. I can see that, but I couldn't understand what you meant by charging interest. How are you going to charge interest against any fund? Because your depreciation is used, in the first place, as I understand it, for replacements, and that is used just exactly as replacements take place. Then there is something left over which you have accumulated for depreciation charge, which is for the pur- [fol. 1214] pose of retiring the property, and is paid to the company, and they can use it as they please, so I didn't understand where you got your fund that you are going to charge interest against.

A. Let me explain that.

Q. I am not clear about it yet.

A. I see you are not. Now, I said there were two divisions.

Q. Yes.

A. The reserve pertaining to the property which must be replaced during the life of the field, and that property which will not be replaced, but which is gradually being retired. As to the latter, there is no interest provision, because the capital is, in effect, given back to the company.

Q. Yes.

A. I merely say that where the capital is being so given back, the public should not also be charged with a return on the money which it has paid back.

Now, as to the first group of purely depreciation reserve, just as we find that reserve in all other continuing public utilities. There it is for the purpose of making replacements. You cannot make replacements every year on every class of property. Some has a [fol. 1215] long life and some has a short life. Assuming that the reserve provision is made with every possible care and accuracy, there must always be and will always be, in the strictly depreciation reserve, a credit balance. As to that credit balance which the company is using in its business, or, for that matter, investing in the bank or any other place, the interest which it earns should be credited to depreciation reserve, and to that extent reduce the charge against the public for operating expenses.

Q. You found this company did have a depreciation reserve?

A. Yes, a very large one.

Q. For that particular purpose?

A. It has one general reserve.

Q. You didn't find it for the purpose of making replacements particularly?

A. No, they have been making very few replacements. They have been using it for the purpose of retiring abandoned acreage and wells. There have been very few replacements necessary so far. Minor replacements have been charged into operating expenses.

Q. Practically all replacements so far as this company is concerned, [fol. 1216] have gone into operating expenses, haven't they?

A. There have been no very heavy ones, that I know of. They have been making replacements largely through operating expenses.

and many companies do that, but nevertheless theirs is charged to depreciation reserve.

Mr. Diederich:

Q. Mr. Hagenah, have you studied the Uebelacker exhibit with reference to the apportionment which he made of the investment and expenses to the domestic and industrial consumers?

A. Yes, I have studied his method on that apportionment on what he calls the demand basis.

Q. What have you to say with reference to that as being a correct basis for making such an apportionment?

A. I don't think that it is the best basis. The natural gas business is not of the kind where demand is the determining factor. The demand theory applies particularly in the electric industry, where the product of the company cannot be stored for any length of time. It applies also, to a somewhat lesser extent, in the telephone business, where the maximum demand cannot very well be distributed, but must be met by large capital investments. The demand theory has had very little recognition in the artificial gas business, where the [fol. 1217] companies are able to build a storage holder which can cover the company's requirements for anywhere from 18 to 24 hours, with the result that the plant can operate on a practically uniform basis. In the natural gas business the company has an enormous reservoir, covering 18 years' supply, and if the demand factor is of little weight in an artificial plant, it is of less weight in a natural gas plant. Mr. Uebelacker has determined the demand factor by estimating the daily—by determining the daily consumption of the domestic and industrial classes. He has overlooked the fact, in his method, that the industrial consumption is not nearly so continuous throughout the month as is the domestic consumption. The industrial demand falls off on four holidays, Sundays, every month. Sometimes there are more holidays. Generally, in the winter months, the period of maximum demand, we have one or more holidays besides the Sundays in every month. Then, also, the industrial demand is not so heavy at night. It is not so heavy Saturday afternoons, in some plants. If you take the consumption on a daily basis—that is, take the monthly consumption and divide by 30—you are penalizing the domestic consumer for the benefit of the in-[fol. 1218] dustrial consumer, because he is receiving a smaller percentage of the total. The Natural gas business is one in which the factors are not related to demand, but are rather a quantity factor, or what is known in cost accounting as a use factor, as opposed to a demand factor.

Q. And have you made a study or come to a conclusion as to what basis should be used—definite basis?

A. I think the use basis, or the sales method, is more accurate and will lead to more satisfactory and correct results from a cost accounting standpoint than would the demand, because the characteristic features of the natural gas service are not related to demand.

Cross-examination

By Judge Ritz:

Q. You have said that Mr. Uebelacker's method of making a differential between domestic service and industrial service is all wrong.

A. Oh, I wouldn't say it was all wrong. I don't think it is the best basis.

Q. Well, it is wrong, whether it is all wrong,——

A. Yes, compared with a better one, yes.

Q. And the better one is to base it upon the amount used by each service?

[fol. 1219] A. I think so.

Q. In other words, the quantity used should be the determining factor, there should be no difference in rate at all.

A. There might be some modification of that in any——

Q. I know there might be, but should there be—not might?

A. Yes, there should be some modification of the demand factor giving a greater weight to the use factor, although I would not say that either one of them is 100 per cent right to the exclusion of the other.

Q. You said in your examination in chief that the use factor was the one to adopt. Now you say the demand factor. Which is the one which should be adopted?

A. The use factor is the one—I have not attempted to make a segregation as to the proper place——

Q. Where is the proper place? You are an expert and know all about these things. Where is the proper place?

A. I would give greater weight to the use factor.

Q. What weight?

A. Well, in this case I would give it all to the use factor, although, if I were making a study there, as Mr. Uebelacker has, I [fol. 1220] might give some weight to the demand factor; so that my final answer would be somewhere between the two, because we have not a hundred per cent accuracy on any one basis, but as between the two the use factor is more accurate than the demand factor.

Q. I am not asking you to distinguish between the two. I am trying to arrive at what, from your six months' investigation is the proper factor.

A. Well, I would say the use factor.

Q. After more than six months' investigation, you say that the factor to be considered by the Commission as establishing whether there should or should not be a differential between the two classes of service is the amount used by each service?

A. Yes, sir.

Q. And that the rate should be exactly the same. In other words, per unit of natural gas used——

A. To the extent that the cost could be determined by the use, yes, but the rate would depend on some factors that vary with distance and factors other than use.

Q. What are those factors?

A. Interest and depreciation and operating expenses. Some of [fol. 1221] these factors have been distributed on a distance basis, some are distributed as an overhead factor; some on use.

Q. Well, now, Mr. Hagenah, the Court wants to find out in this case, I presume—I am sure it does—whether there should be any difference between the domestic rate and the industrial rate. You have criticized the basis we set up. Now, you set up one, will you?

A. I will put it on the use factor.

Q. I know, but tell the Court whether there should be any difference between the two rates, and if so, what difference. Get to something concrete.

A. There should be a difference in it, of course, if you have a right to interrupt one service.

Q. What difference?

A. Well, I don't know that. I couldn't say off hand what that should be.

Q. After six months' study you have made no——

A. No, I have made no study of the operating expenses. I have merely answered a hypothetical question on that point. Mr. Jirgal has studied the operating costs.

Q. You say that there should be some difference between the two?

A. Yes.

[fol. 1222] Q. But you are not willing to tell the Court how much it should be?

A. No, I can't, because I have not studied that.

Q. And you are not willing to study it?

A. I would be willing to had the subject been assigned to me, but it was not.

Q. It wasn't assigned to you?

A. No. I was just asked a hypothetical question on that. I want to have it clearly understood, as testifying on that basis, the use factor is more reliable than the demand factor.

Q. And upon that phase of the case you undertake to criticize what the other people are doing, without undertaking to set up anything in its place?

A. I agree with Mr. Jirgal on that point.

Q. What does he say?

A. He says the use factor is more reliable than the demand factor.

Q. What difference does he say?

A. I don't know.

Q. You take the use factor, the rates would be exactly the same, wouldn't they?

A. Subject to the benefit that the industrial user should have [fol. 1223] if his service can be interrupted on days of deficient supply or other factors, that would be only fair.

Q. Well, how much would that amount to?

A. I don't know. I have not studied that.

Q. You don't know but what Mr. Uelelacker is entirely right about it in his figures, do you?

A. I know that the basis that Mr. Uelelacker uses is not correct.

Q. You know that is wrong, but you don't know but what you would come to the same conclusion if you used the basis that you say is correct, do you?

A. Yes, I do, because I would not use the basis in the way he used it. Further than that I cannot say, because I did not make the study in the way Mr. Uebelacker did. Mr. Jirgal covered that subject. I was only asked one question on an accounting standpoint, and I think that is clear. The use factor is more reliable than the demand factor. As between the two, that is the best one to use.

Q. You say Mr. Uebelacker didn't take into consideration the use factor.

A. Oh, he did give it some weight.

[fol. 1224] Q. Now, as a matter of fact, doesn't his report show that he gave consideration to both factors?

A. His report is perfectly clear, but at the same time the way he determined the demand, is, I think, wrong.

Q. Now, you say the reason that you give for applying the use factor is that the company has an 18 years' supply of gas available in a reservoir. Now you know, as a matter of fact, it hasn't any 18 years' supply of gas immediately available, don't you?

A. It is all available as far as immediate demand is concerned.

Q. It is?

A. Yes.

Q. Now, you know, as a matter of fact, it would require the drilling of something like a thousand wells to make it available, don't you?

A. Yes, but you wouldn't do that, because you couldn't possibly sell that in one year.

Q. But you put this use factor on the basis that they have this gas immediately available.

A. It doesn't make any difference whether one year or five years, you have ample gas to meet the demand in storage. There are cer-

[fol. 1225] tain operating expenses in connection with the use of the holder.

Q. But there are 18 or 16 or 17 of these years' supplies that there is no way of getting to until wells are drilled, aren't there?

A. They have nothing to do with the present demand. I merely called attention to the fact that from a cost accounting standpoint you have a reservoir which is good for 18 years for the purposes of this rate case. In determining the demand factor it wouldn't make any difference whether the reserve is good for one or eighteen years. I appreciate that you can't bring it in without having gas wells. The fact is that in operating your property demand is not the determining factor. The costs are related to use and consumption rather than to maximum demand.

Q. Then if you are correct about that there should be no such thing as interruption of any of the service, should there?

A. Only to the extent that you have these extraordinary conditions to be accounted for, and they are not brought about by demand; they are brought about by extraordinary condition—weather conditions—temperature conditions.

Q. Cold weather in the winter time you call an extraordinary con-
[fol. 1226] dition?

A. Yes, it is.

Q. Hot weather in the summer is an extraordinary one too?

A. Extraordinary as affecting your costs; they are normal as continuing year after year, and your plant is built with the idea of taking care of the normal ranges and fluctuations in temperature up and down. They are not extraordinary. It is only a certain day when the demand may be so great from certain classes of service. That is true in every class of public utility. You can't throw on a power load in an electric plant without having some arrangement as to notice.

Q. You said that was true as to electricity, but you said there was no analogy between electricity and natural gas.

A. I am simply explaining why this does not apply in the natural gas business.

Q. And the reason it does not apply to the natural gas business is because cold weather is extraordinary in the winter and hot weather extraordinary in the summer.

A. Not at all. They are provisions, which you design for in operating your plant; but because they may come any day certain [fol. 1227] classes of consumers must suffer interruption of their service; and as between the domestic and industrial, industrial must properly suffer. That is not a factor that is considered as demand in cost analyses.

Q. It isn't?

A. It is a normal demand. The amount consumed in use by the customer, that should determine the cost of the service.

Q. And you don't think that should be given any consideration?

A. Yes, I think it should be given some consideration, but it is not one of the factors that determines your rate.

Q. It should be given consideration, but not taken as a factor?

A. No, it is not one of the factors that goes to the maximum demand theory in distributing costs. You have conditions that are inherent and more or less abnormal in every class of business. That does not justify the maximum demand theory in making rates.

Here is a simple illustration for my point. Now, Mr. Uebelacker takes the sales on the industrial and domestic consumers on a monthly basis and divides them by 30, the number of days. That [fol. 1228] doesn't give the proper basis, because both classes of customers subject to that adjustment are not operating under the same condition. The industrial consumers are not using the product for thirty continuous days; the domestic consumers are. Consequently, if such a division is to be made the basis of a demand, you are giving the industrial consumers the benefit, because they are using the service four days a month less than the domestic consumers; consequently your percentage of burden thrown on the domestic consumers is unduly high. If you interrupt them one or two or three days for any reasons extraordinary, the burden thrown on the domestic consumers would be correspondingly greater.

Q. Why would it be interrupted during those days?

A It would be interrupted because of extraordinary conditions; but the coming of Sundays, if I may suggest, that is not an extraordinary condition. That is an ordinary condition, and that is a condition which I think Mr Uebelacker should have considered. Apparently he did not.

Q You don't think he did?

A Apparently not.

Judge Ritz: Well, he will answer that himself.

[fol 1229] Q Now, you have stated, I believe, that there was no justification for allowing anything more to the valuation of this property for gas holdings than the book cost of them, in your opinion.

A No, I wouldn't say that. I don't think I have testified to that. I say that as between the $33,000,000 valuation on the exchange theory and the amount appearing on the books of the company, the book cost more nearly reflects the proper rate base, especially since the company can go out into the field and reproduce or replace those leases on a cost less than the amount that now stands on the books.

Q Do you mean to tell this Court that this company can go out and replace those leases at any cost at all?

A It is doing it, according to Mr. Jirgal's testimony, his exhibits here showing how large numbers of leases have been renewed at maturity on a basis much lower than the cost they now stand on the books, and, of course, very much lower than the amount at which they have been appraised.

Q You understand why that is, don't you—because the company has a right to extend the lease by drilling a well on it, at any rate? [fol 1230] A They ought to be renewed.

Q You know very well they couldn't be renewed unless the company had a right to renew it against the will of the owner by simply drilling a well on it?

A No, I don't know that.

Q And don't you know that if this property is only entitled to a $6,000,000.00 base for the purpose of rate making that this company could very easily forfeit all those leases and let some other company take them, and go elsewhere where it could get a better rate?

A That involves a very important legal question as to what extent a public utility company could divest itself of its public service obligations. I do not want to answer that. I do not want you to understand that I am not admitting that an owner is entitled to the appreciation in the value of his property; I frankly say he is entitled to the appreciation. I have approved Mr. Uebelacker's appraisal on the very principle that I think he fairly states the reproduction cost new of the property. I differ decidedly with him, however, as to the method and the result arrived at in determining the fair value of the leaseholds.

Q Well, what do you determine their fair value to be?

A I would say that if value is to be considered, it should be only

[fol. 1231] to the extent of the used and useful proportion of it. Now, I know, and every one who has studied the subject knows, that when you are dealing with so uncertain a quantity as gas underground, uncertain as to all the major factors which go to make value, it is extremely difficult to evolve any theory that is practical and reasonable. Now, your engineers have taken one theory. I think it is wrong and it leads to an extreme result; but if that theory were to be accepted by the Courts or Commission, then only 5/18 of that value should be included in the rate base. Now, I will go one step further, Judge. I say——

Q. Well, you are not answering my question at all. You will get along a heap faster if you will just answer my question and not argue the case. I will argue it after awhile to the Court.

A. And that that was one way to reflect value——

Q. My question is, what value would you place upon the leasehold? Let's have your answer to that and then such explanation as you desire to make.

A. In the first place, it is difficult for me to say what value I would put on. I can't say what theory of value is absolutely right. That is for the Courts. If the Court says that the theory laid down [fol. 1232] in the Pennsylvania case is right——

Q. Can you help the Court any by giving it any theory or plan for arriving at the value of these leaseholds?

A. Yes, let me suggest for your consideration this factor. Knowing how uncertain and difficult it is to determine the value of property of this character, but at the same time knowing that there has been an appreciation in the value of all property because of the increase in the labor and material prices, the decline in the purchasing power of a dollar, and those various factors, and since the Government reports show that this average appreciation or adjustment due to the purchasing power of a dollar in its decline since 1913 indicates an appreciation of about 50 per cent, I think that if the company can show that it has invested here a matter of $7,000,000.00—actual dollars invested in these gas reserves—and that there having been an appreciation of approximately 50 per cent in property generally throughout the United States, that if they were given an appreciation in their leasehold actual investment to the extent that all property has appreciated on an average, which here would be $3,500,000.00 would give a value for the leaseholds of between ten and a half and eleven million dollars. That is one way of trying to [fol. 1233] recognize the appreciation of property generally in one class of property which is very difficult by its nature of appraisal. That is only one method of arriving at it, and I wouldn't say that even I would consider that as final, but I submit that as something bearing on the value of this class of property.

In other words, if those who have invested in gas leases, as compared with those who have invested in other classes of property, receive the average increase in value that other property has experienced, they are not being injured. It may be that those who invested in one kind of property have made a larger profit, while those who have invested in farm lands, have lost money, but if any indus-

try receives the average it is not being abused. I cannot see the reasonableness of a $33,000,000.00 value. I may agree with Mr. Uebelacker and Mr. Davis that if the exchange theory is to be considered as controlling, $33,000,000.00 is a fair figure, but when I say that only that which is used and useful should be included, because the public is paying for the carrying charges.

Q. Do I understand you to say that the difference in price is about 50 per cent, Mr. Hagenah, between present and prewar prices?

[fol. 1234] A. That is the United States Government index number. It is now about 150 and 151; it has been over 200 and it is now fluctuating between 149 and 152, I think.

Q. What is fluctuating?

A. The index number of commodity prices.

Q. That is about 50 per cent?

A. 50 per cent over 1913. Some classes have gone higher; others not so high. That is an average.

Q. Do you know of anything that you buy now that you could get for 50 per cent above what you paid for it in 1913?

A. Why, yes.

Q. What?

A. Copper.

Q. Copper?

A. Yes, sir.

Q. That is the only thing you know?

A. No. Farm lands. That is a big class of property.

Q. Farm lands and copper. You can't get natural gas at 50 per cent over what you did in 1913.

A. No, you can buy rubber, you can buy automobiles, you can buy a large amount of machinery, you can buy some classes of [fol. 1235] clothing.

Q. Why wouldn't it be a little more accurate to get the appreciation in the particular class of of property that you are valuing than it would get the appreciation in the classes of property generally, including those that have depreciated?

A. I think it would be, Judge, if we can find that the factors that make this higher value that you refer to are factors under Government regulation and not because of competitive conditions outside of regulation.

Q. You say that competitive conditions must not be considered in fixing this?

A. Not exactly that; I say that the value of the product cannot be determined on the basis of the next available substitute.

Q. Competitive conditions?

A. Yes, sir.

Q. And the Supreme Court of this state has said you cannot consider the regulated price by the Commission to determine it, so between the two of you there is nothing you could consider in order to get a value. You deprive us of taking the very thing the Court says we ought to take, and the Court deprives us of what you say we ought to take.

A. I don't think that is right. The Court has said you were en-

[fol 1236] titled to appreciation; the Court has said you were not entitled to appreciation measured in the way you sought to measure it.

Q. The Court said we would have to measure it by conditions not affected by the rates fixed by public service corporations, didn't it?

A. Yes.

Q. And that left us, of course, to conditions that were competitive? They were the only conditions that remained, weren't they?

A. No.

Q. What were the other ones?

A. No, the analysis of your own costs. You have many costs going into the selling price of gas besides the product in the field.

Q. But cost of production of gas would not be any measure of the value of land.

A. You spoke about rate.

Q. I am talking about the value of the land. We are trying to get the value of the land now.

A. Well, you certainly cannot capitalize it on the basis of the next available substitute. That is closed against you.

[fol 1237] Q. You can't take competitive conditions for that purpose?

A. I might suggest, in answer to that question, Judge, that you consider what some Commissions have considered in this very problem, where it seemed to be extremely difficult. They said that "if there has been such appreciation let's work out some problem for apportioning this benefit between the public and the company." They have done that in valuing water powers——

Q. Some Commissions have apportioned it. You would give it all to the public?

A. No, I would not.

Q. Every one of these calculations you have made on the rate base here, 21 per cent and all that sort of thing, gives it every bit to the public, doesn't it?

A. No, that merely shows what the values are. That is not what the Commission will do about it.

Q. I am talking about what your calculations will do. What do you submit those calculations for if you don't want the Commission to consider them?

A. Well, I will show you that what you say is not the fact.

Q. Wherein is it not the fact?

[fol 1238] (No answer.)

Q. Now, I think exhibit number 7 is the one you figure out the rate as 15.45 per cent. Don't you figure that all on the basis that these gas reserves are worth just what they cost?

A. Not at all. If I have the same exhibit that you refer to, that is based on your own witnesses' estimate of what the actual value is in the field, five cents.

Q. No. 7.

A. Yes, No. 7 is based on exhibit No. 6, which is based on the market value of the gas at five cents, just the opposite from what you say.

Q. You say Mr. Uebelacker said that the fair market price was five cents in the field?

A. Five cents under ground, yes.

Q. And you construe Mr. Uebelacker as making that statement?

A. His report says so. There is no difficulty of construction; that is what he says.

Q. Now, suppose gas was worth 18 cents and was selling for 18 cents on the basis of this exhibit at the mouth of the well. Can you give the Court some idea of what the return would be?

[fol. 1239] A. I can't say off hand; it would be very low. There might not be any.

Q. Wouldn't be any at all, would there?

A. You might put it at a point where there wouldn't be any. Now, if the market value theory is to be accepted, then whatever that market value is must go into the cost, and if it cost 18 cents in the field the public will have to pay more for gas. I am not arguing about that I am merely saying that if the market price of gas is five cents, as Mr. Uebelacker testified, then your company is making money on that basis.

Q. Suppose that theory is adopted by the Court and suppose it appears from the evidence in this case that the market price of gas now in the field, since more competition has got in, is 18 cents, this would be reduced to the point where there is no return at all, wouldn't it?

A. On the basis of that assumption I presume that would follow.

Q. Because it would be worth more in the field than the company is getting for it delivered?

A. That would follow from your hypothetical case.

Mr. Diederich. Will you pardon a question?

Judge Ritz. Surely.

[fol. 1240] Mr. Diederich.

Q. Mr. Hagenah, are you able to tell us what conditions are responsible for this market price in the field, if there is such a price as 18 cents, or are you familiar with that at all?

A. I have only a vague idea that is merely hearsay. That is competitive bidding, and things of that kind; but I don't know of my own knowledge.

Also in answer to your question where you said I was taking all your appreciation away, there was another illustration in the last exhibit, but there I took 5/18 of the thirty-three million that was recognizing appreciation very decidedly.

Judge Ritz.

Q. Oh, not appreciably.

A. Recognizing it to the extent that it was used and useful.

Q. Now, you are determining that question what is used and useful, aren't you?

A. I am setting up a judgment figure, yes.

Q That is simply your judgment about it. Mr. Hagenah, do you believe that any company could build a gas plant like the United Fuel Gas Company's on a five years' supply of gas?

A No.

[fol. 1241] Q At the rate of 20 cents a thousand?

A No, and I am not even suggesting that. There is nothing in my testimony, and not even in my ideas, that would justify that statement. I believe that your company should go out and acquire gas and leases. It is a good thing for the public that you have that 18 years' supply. It would be better if you had a 25 years' supply. But I do say, when the public is charged with the cost of the skill and judgment used in the acquisition of that gas and the cost of carrying it, the public should not be charged with the appreciation when later that property is dedicated to the public use.

Q Do you think that what the United Fuel Gas Company paid 17 or 18 years ago for these leases is any measure of their value now?

A As to what they acutally paid, that, of course, I do not know——

Q I didn't ask you what they actually paid. I say, do you think that is any measure of their value now?

A No, but I think it is a measure of what the public should be charged with, since they have been carrying them.

Q Assuming that they put in several million dollars to acquire this [fol. 1242] gas field at a time when it was a purely speculative proposition, at a time when the people of Charleston and Huntington wouldn't put up a cent on it, and for eight or nine years they didn't make a cent on it, and then it got to be a good proposition, then you say the public would have all the benefit of the advance.

A No, I wouldn't say that in that extreme case the public would have all the benefit of the advance, but I can't get away from the proposition that if you went out and bought it at that time and the public carried it, that the public is not entitled to the benefit of the advance.

Q And you say that the public was carrying it when the company didn't pay a dividend for nine years?

A It is my understanding the company has made a great deal of money. It is my understanding they put their money back into construction.

Q They did.

A And continued to make a very handsome return for that reason.

Q And notwithstanding all the risks that they took, these people that put up the money shouldn't have any return for that?

[fol. 1243] A I think the financial statistics in this case show that they got a very handsome return for their risk. The mere fact that a dividend has not been paid does not prove that the stockholders have not been compensated for that.

Q Now, this company buys a great deal of its gas, doesn't it?

A Yes.

Q Somewhere near 20 to 25 per cent of it?

A. A substantial amount, I think it is about that.

Q. And that gas in all of its accounts is put in at just what it pays for it, isn't it?

A. Yes, sir.

Q. Under contracts made ten or fifteen years ago, isn't it, some of it?

A. I think that is true.

Q. And the public is getting the benefit of all those contracts?

A. Yes, sir.

Q. Don't you think they should be appreciated some? Don't you think those contracts are of some value?

A. They would be if you were going to sell them.

Q. Do you not think that a contract now——

[fol. 1244] A. But if you acquire them in the course of your business, as part of your stock in trade, I don't see how you can appreciate this under Mr. Uebelacker's theory. If all gas, whether you produced it or bought it, were put in at his estimate of five cents per thousand cubic feet, you would correct any unfortunate situation that might hang over from seven or eight years ago.

Q. Every time I ask you a question you get off on somebody else's theory. I ask you now if those contracts, as a matter of fact, are not worth more than they were when they were bought—are not worth more than five cents a thousand.

A. No, if the market price is five cents a thousand.

Q. And you tell the Court, when gas is selling in the field at 18 cents per thousand, if the United Fuel has a contract at which it gets it at five cents a thousand, that contract has no value?

A. It may be getting it in an individual case. I am basing my estimate on the market value of the gas.

Q. I am assuming in my question that the market value of the gas was 18 cents in the field and the United Fuel Gas Company had a contract at which they got it at five, are not those contracts worth something?

[fol. 1245] A. Something, yes, sir, but not the difference between five and eighteen.

Q. But in none of these studies is that taken in as an item of value, is it?

A. I don't know that it is present.

Q. You will get along faster if you answer my questions.

Mr. Diederich. I submit he can't answer it in any other way. He says it doesn't enter into those other reports.

Judge Ritz. I don't understand it to mean that at all.

Mr. Diederich. I think it does. You might ask whether that difference would be included in the going value of the concern.

A. No, it is not included in the going value, and as I made no independent appraisal of the natural gas reserves, but have based by testimony on the finds by Mr. Uebelacker and Mr. Davis, and there is nothing to indicate that they took that fact into consideration, I say that it is not present in these calculations.

Judge Ritz

Q You don't make any appraisal of any — this company's prop-
[fol. 1246] erty, do you?

A Not an independent appraisal, no, sir, but I checked others.

Q How is that?

A I made no independent appraisal. My exhibit on appraisal is based on Mr. Uebelacker's report.

Q You simply took Mr. Uebelacker's report as true?

A Yes. I found it to be true in most respects. As to inventory and reproduction cost it is correct.

Q And you didn't attempt to apply any method to ascertain the value of the property independently of somebody else's calculations?

A Yes, I did. I checked them to see whether they were right. If I had found his costs to be too high or too low, I would frankly say so. I think they are right. I have checked them with my unit costs I have used in other appraisals, appraisals I am making now, and think the appraisal is a very fair and very excellent statement of the reproduction cost as of the date that it shows.

Q Do you think that reproduction cost reflects at least 50 per cent more than the original cost of either your appraisal or Mr. Uebelacker's?

A My reproduction is the same as his. We are agreed there.

[fol. 1247] Q On the physical property.

A I don't believe it does.

Judge Ritz: No, it does not, for this reason, that a good deal of the property was put in in recent years, when prices were high.

Mr. Diederich: That would amount to about three or four million dollars.

Judge Ritz: Oh, yes, there was two million dollars put in last year. I mean in the last five or six years, there have been several million dollars put in at high prices.

Mr. Diederich: I was under the impression that there had been about three or four millions put in since 1917.

Judge Ritz: There was much more than that. There has been, I suspect, ten millions gone in since 1917. My recollection is that it is about ten million dollars since 1917, or somewhere along there.

Q And to fix a rate at this time, if there have been additions to it in the last year, that should be added to your value shouldn't it?

A Additions during 1924?

Q Yes.

[fol. 1248] A Yes, sir.

Q I think we have filed a statement that there has been some two millions——

A That is merely bringing the inventory and appraisal down to date?

Q Down to date.

A Yes, sir.

Q Now, assuming that the plant which you examined and appraised as of December 31, 1923, was in good working order and in

first class condition to perform the functions for which it was intended—and I believe you say it was.

A. It was.

Q. And that during the year 1923 that plant delivered 45 billion cubic feet of gas, in round numbers; that in 1924 there was added to it 90 additional wells, a new compressor station and other entirely new appliances, and that the amount of gas sold, notwithstanding these things, was less than in 1923, what would you say was the tendency in the price of gas, upward or downward?

A. The tendency under those conditions, I assume, would be upward.

Q. Now, it is a fact, isn't it, Mr. Hagenah, that as the gas field [fol. 1249] gets older and the pressure is relieved it costs more money to produce the gas—isn't that true?

A. As a general rule that is true.

Q. And this company, from year to year, will have to add additional units to its plant in order to produce from that field the same quantity of gas that it is now producing with its present plant, wouldn't it?

A. I would expect that condition, yes, sir.

Q. Now, you have depreciated the property on a straight line basis, and I believe you have applied 5½ per cent a year. Is that correct?

A. No, you misunderstood my figures. I have depreciated it, not by any single percentage; the straight line depreciation was applied only on that class of property whose life would terminate on the exhaustion of the field, and there I depreciated it on the year-life basis for the class, and not used any percentage, because the life is different for each class and the percentage would be different. In the operating expenses there is a depreciation factor.

Q. You have assumed that the life of the plant would be 18 years?

A. Yes, sir.

[fol. 1250] Q. From the 1st day of January, 1924?

A. Yes, sir.

Q. And that assumption is based upon the further assumption that there will be the same quantity of gas produced from the field each year thereafter, isn't it?

A. After 1924?

Q. Yes.

A. Why, I don't know that the same quantity will be; it might easily be less. I made no assumption other than that the field is good for 18 years, as Mr. Davis computed on his statistics, that the property devoted to that would have a life of 18 years.

Q. Mr. Davis said assuming the same quantity of gas was produced each year that was produced that year, it would last 18 years, didn't he?

A. Yes, and on that assumption he put a certain value.

Q. I am putting that assumption to you. That assumption cannot be realized, can it?

A. I don't know but what I could give it the same weight for checking the appraisal that Mr. Davis used for making it.

Q. I say, the assumption that there will be produced from this [fol. 1251] field the same amount of gas for each year for the next 18 years cannot be realized, can it?

A. I don't expect it can, no.

Q. There is no possibility that it can, is there?

A. Not each year, no.

Q. It is bound to decrease each year, isn't it?

A. I don't know. You may drill more one year than another, or get more desirable gas production one year or another year. I suppose Mr. Davis took that into consideration.

Q. He told you in the testimony just exactly what he took into consideration, didn't he?

A. Yes, sir, and mentioned all those factors, told how promising some sections of the field were that the company was approaching.

Q. You know that as the field approaches the end of its life the production grows less and less, don't you?

A. Ordinarily that is true.

Q. Yes, that is bound to be true.

(No answer.)

Q. And if you applied the straight line theory of depreciation you will find at the end of 18 years you would be collecting just as much [fol. 1252] for depreciation as you would the first year, wouldn't you?

A. Applying the straight line for the property affected by that, you would.

Q. And that would make the price of gas so high for that year that it couldn't be sold at all, wouldn't it?

A. No, the management would anticipate that situation ten years from now, because it appreciates that fact very well at the present time, and would adjust its fixed charges accordingly; good management would do that.

Q. Just what fixed charges?

A. Depreciation.

Q. That is just what we are trying to fix now for it, isn't it?

A. Exactly.

Q. You are trying to adjust it on a straight line from one end to the other.

A. That is the amount that would have to be taken care of if the nature of the business, because of the life of the field, made it necessary for them to charge more for one year to get their capital back, they would be perfectly free to do it, for the purpose of making a [fol. 1253] rate today, 18 years before the situation you anticipate happens.

Q. Isn't the only logical way to amortize the plant and provide for depreciation on the basis of so much for each thousand feet of gas that comes out?

A. It is all right, provided the amount included in the charge per

thousand cubic feet is the amount that will retire it on the proper basis

Q. Well, the first thing for you to do is to find out what amount of money it takes to do it, isn't it?

A. Yes, sir.

Q. And then it is very easy to distribute that over the gas

A. Yes

Q. At so much per thousand cubic feet?

A. Yes

Q. And that is the only logical way to do it, isn't it?

A. Yes, that doesn't prevent you from adjusting your capital value accordingly.

Q. So if that is all taken out in one year, it amounts to the same as if it was taken out in 50 years, doesn't it?

[fol. 1254] A. As an operating expense, yes, but not as a capital value.

Q. Why not?

A. You know you must get your capital back in 18 years.

Q. If you get it back in one year by amortizing so much per thousand cubic feet what is the difference?

A. Isn't that just as violent an assumption as 5-18?

Q. The question of time doesn't enter into it, does it, if you amortize so much per thousand cubic feet?

A. Yes, it enters into the amount of money that you must get back again. You may have to raise or lower that rate, according to all these uncertain factors with which you must contend. Now, if you have that capital value on certain classes of property that you want to get back in 18 years, assuming that you have 18 years operation, there will be fluctuations, then it is not so important; but these factors that determine the life of the property are themselves uncertain, so it cannot be made exactly accurate for 18 years.

Q. You do not assume that this Court is going to fix a rate for 18 years, do you?

[fol. 1255] A. Not at all, but it must be taken into consideration.

Q. But don't you assume that this Court will fix the rate on the assumption that those conditions will continue to exist, and when conditions change it will change the rate?

A. It will look at the conditions as continuing, yes, but not 18 years ahead.

Q. All of these theories you have advanced are simply theories, aren't they?

A. They are theories—I wouldn't say they are theories; they are analyses for the purpose of disclosing the weakness in theories that your engineers have relied on. I am not advancing any theories; I am criticizing theories that have been advanced.

Q. You are simply criticizing?

A. Yes.

Q. You are not advancing any theory yourself?

A. I am showing the logic to which the inaccurate application of a theory will lead, and I have showed what will be more fair under the circumstances.

Q. Now, I believe you stated this morning when you were testifying that Commissions and Courts have decided in accordance with [fol. 1256] a certain theory that you advanced—I have forgotten what it was now—in regard to cost of book valuation of gas reserves. Is that correct?

A. No, sir. I didn't mention the book cost. I said the Courts and Commissions had held that the exchange theory of value could not be used in appraising natural resources devoted to public utility service, illustrated by means of the railroad rate making and also the appraisal of water powers. I did not say, and I do not want to be understood as saying, that in those instances the cost of the property is to control. I don't think that it should control.

Q. Now, as a matter of fact, the United States Government, through the Interstate Commerce Commission, spent millions of dollars trying to find out what the present value of the railroads for rate making purposes is, didn't they?

A. Precisely, and in no case have they applied the exchange theory.

Q. What have they applied?

A. They are taking, just as Mr. Uebelacker did here—trying to find the reproduction cost of the property, embracing labor and ma- [fol. 1257] terial; they are not appraising natural resources on the exchange theory basis.

Q. When they come to the real estate the railroad company owns how do they appraise it?

A. They are appraising their land on the basis of the sale price of adjoining and similar land, which is an open market proposition, and land is not a property that is capable of monopoly power exercise.

Q. Why shouldn't all other property be appraised on the same basis? Why shouldn't gas reserves be appraised on the same basis?

A. Because a natural gas reserve is a natural monopoly. Labor, building material, steel are not natural monopolies; they are commodities that move freely in trade, for which there is a well established market, and when labor and material prices advance the products or the result of labor and material expenditures, will advance in price. The same rule does not apply to natural gas resources or to water powers, because if it were applied the public would be deprived of the natural gas resources or the water powers, since it would be charged for their products on the same basis that it would have to be if those reserves or resources were not present at all.

Q. You are basing your theory on the fact that nobody owns the [fol. 1258] gas, that that belongs to the public.

A. I am not basing it on that theory. I do not maintain that the public owns the gas. It emphatically does not own the gas, you people own it. But you have a certain duty to the public on the sale of it. You are entitled to a reasonable return on its fair value, and that fair value is not measured by the extent to which you can exploit it as compared with the next substitute service.

Q. How do you arrive at the fair value?

A. It is a very difficult matter to determine. I have given one method of arriving at it.

Q. Would you think that what people would be willing to pay for it would be any measure of the value?

A. Not unless I know the circumstances under which they made their estimate and the purposes to which they were going to apply that gas and whether they would apply it to uses subject to the public regulation or not. If I could obtain gas from a certain section of West Virginia and sell it to certain manufacturers who themselves were making huge profits I would pay more for the gas, but if I chose to dedicate it to the public service I could not capitalize [fol. 1259] my gas on the basis of what I might make in another field under different conditions.

Q. In other words, you propose that in arriving at the gas reserve the Court must exclude all elements of value that come from competitive conditions.

A. No, I wouldn't say that they should exclude all of it, but I say they should not accept that as the only measure of the value.

Q. Then they should accept that as some evidence of the value?

A. It is entitled to some consideration. There are many factors that affect value; not any one is controlling.

Q. That is, then, an element of value?

A. I think that is an element to be considered.

Q. What other elements are there?

A. The fact that the public has paid the operating expenses under which these leases were acquired and has paid their carrying charges. That has an influence in the other direction. The fact that labor and material prices and commodities generally have advanced in value. That is in favor of an appreciation for gas leases.

Q. Well, it is true in every business, if a man runs a purely private business, he attempts to make his customers pay his running expenses, doesn't he, at least?

[fol. 1260] A. Yes, but he doesn't turn around and capitalize against them the product which he has asked them to carry.

Q. I believe you have made up a study here of the coal business and filed it, showing the lamentable condition in which it is. You know, as a matter of fact, that if your theory was applied to the coal business the coal producers have received many, many times what they have put in, as reasonable returns on their investments, don't you?

A. The coal business is not a business devoted to the public service like a utility.

Q. That is not what I asked you.

A. No.

Q. Why did you put that in?

A. I put that in to show the uncertainty of coal prices and the unreliability of the price for coal as of December, 1923, remaining a fair index of coal values for eighteen years in the future. Just the opposite conclusion is to be drawn from the situation you state. The coal business is in a lamentable condition because they have been trying to do the very things that have been here suggested.

They have been trying by artificial means—in other words, to lift [fol. 1261] themselves by their own boot straps. It is a competitive business, and they have tried to take it out of the effect of the laws of supply and demand.

Q. Who have?

A. The coal people. I do not mean the operator alone, but I mean the operator and labor unions and political situations have all brought about an unfortunate situation in the coal business, which is now being corrected, just as these factors have brought about, in a somewhat different way, an unfortunate situation in the agricultural fields of the west.

Q. Now, you filed that statement of the coal situation to show that the price of coal would not likely remain the same for eighteen years?

A. Yes.

Q. And that therefore Mr. Davis's comparisons were of no weight?

A. Oh, I cannot say they were of no weight. They go, however, to prove that they are not entitled to the weight that he thought the commission should give them. Because if this commission will consider the conditions prevailing in the coal field it will not say that a four dollar price in Pittsburgh on December 31, 1923, is a fair [fol. 1262] price on which to predicate a value for eighteen years in the future.

Q. The commission can change that whenever that price changes, can't they?

A. Yes, they can, but the indications are today——

Q. What is the price of coal today?

A. It is cheaper than it was in December, 1923.

Q. Can you get it for less than four dollars delivered in Pittsburgh?

A. I have the prices here by months in the Pittsburgh market and Cincinnati market, and the very price of coal Mr. Davis used is from ten to twenty cents a ton less than Mr. Davis testified. Screened gas coal in Pittsburgh, December 31, 1923, was quoted at from $2.40 to $2.60; the price today is $2.30 and $2.50. Pittsburgh gas mine run coal was in December, 1923, quoted at $2.20 and $2.30. January, 1925, it is quoted from $2.00 to $2.25. The same condition is true in the spot price market, and the same variation—a larger variation has taken place in the price of Kanawha coal f. o. b. Cincinnati, where, in December, 1923, the price was $3.80, and the last quotation I have is October, 1924, which was $3.30, while the spot price in that market declined three cents. Now, these statistics are taken [fol. 1263] from the monthly averages of the United States Bureau of Labor statistics of wholesale prices of coal reported in their bulletin.

Q. And it is still going lower?

A. I think the tendency is lower, but the margin of profit is going to be larger.

Q. You have made a study there quite extensively. Can you give us an idea of when it is going to stop going down?

A. I don't think the decline in the price of coal is so important

a factor. The price will stop going down just as soon as the coal mines will adopt machinery, will adopt scientific methods, will consolidate their properties, eliminate overhead, eliminate waste and bring about the maximum production in the naturally richest field. Now, that is exactly what must come about in the coal business to save it. That is exactly what has been done in every industry that has gone through the process of inflation and deflation since the war.

Q Well, the result of that, put into plain language, is that the fields where they have coal than can be mined cheaply will absorb the market?

A Yes, sir.

[fol. 1264] Q And the fellows in fields like the Kanawha field, and these fields where they can't mine cheaply, will have to go out of business?

A No, that is not true unless you analyze why the Kanawha field does not mine cheaply.

Q Well, the physical conditions are such that they can't mine cheaply.

A The Kanawha field is one of the richest of coal fields, if it will adopt progressive methods, if it will get away from the conditions that are hamstringing the industry. It will become one of the most prosperous fields in the world. It was a good field before the war, and will become a good field against as soon as it adopts efficient methods.

Q You think coal can be produced in the Kanawha field as cheaply as it can in the New River field or Pocahontas field?

A Well, some of these individual names you give I have no figures on them, but I am familiar with the conditions in the union labor coal field and in those where there is no union labor, those coal mines which have broken away from old fashioned methods by the use of modern machinery, as compared with those which have not, [fol. 1265] and for the last five years, while certain people in the coal trade have been predicting a return to high prices, economic law has been relentlessly pushing them down, and until they see the handwriting on the wall and adopt these methods that other industries have had to adopt there will be no relief in the coal field. They can't long continue that process. If one thinks they can, look at the field of electrical development, see the substitution of oil for coal. These enormous changes in development are being stimulated by the situation, more or less arbitrarily maintained, in the coal industry. Now, there are enough Government reports on that to make that perfectly clear. I am merely stating in this pamphlet the result of numerous investigations by the most eminent authorities in the coal business.

Q Are you through with that dissertation?

A If I have answered your question. If not, I can go on.

Q It has been so long since I asked it I have forgotten what it was. You stated, I believe that the result of your study was that there should be allocated to the gasoline part of the business twenty-four and some-tenths of the present value of the property.

[fol. 1266] A That is used for joint gas and gasoline operations

Q. Yes. And if it is true that that 24.6 per cent is a fair measure of that, why do you assign 50 per cent of the net or the gross proceeds of gasoline, the net proceeds or whatever it is, to the gas department?

A. Because there are many factors in there, the element of profit in the gasoline business after it leaves the jointly used physical property. There have been large joint expenditures through physical facilities, and other operating expenses, and I think that a part of this profit should go to the gas department; it should not be served on a cost basis.

Q. I have no doubt about that, but why 50 per cent?

A. That is an even division.

Q. Well, eighty would be too?

A. No.

Q. A hundred would be still evener.

A. No, but it would be unfair; it would not be a reasonable division.

Q. Why not fifty-five then?

A. Well——

Q. What I am getting at is why you take the arbitrary figure of 50 per cent.

[fol. 1267] A. Well, it is an arbitrary figure. After making the study as far as I can and recognizing the uncertainty of it, I think the profits and the losses should be shared on a fifty-fifty basis. That is exactly what I mean to say.

Q. Assuming that there is invested in the gasoline properties, aside from this gas property, entirely, as shown by Mr. Uebelacker's report, about $2,700,000.00, I believe.

A. Yes, there is more invested there.

Q. Well, the gasoline company would be entitled to a fair return on that, wouldn't it, ordinarily?

A. Yes.

Q. And what would you say would be a fair return on that sort of business?

A. Well, I don't know what it would figure out, but I agree with you that gasoline—maybe I didn't understand your question.

Q. What would be a fair rate of return on that?

A. I thought you asked me what it was, whether I had computed it. Well, it would be considerably in excess of 8 per cent.

Q. On a commercial business like that 10 or 12 per cent wouldn't [fol. 1268] be at all attractive to an investor, would it?

A. Over a period of years, no. They have had a hard time for the last two years.

Q. Then you should say that $300,000.00 wouldn't be unfair for a return on that gasoline investment, wouldn't you—$2,700,000.00?

A. Well, there are a number of factors in that. I can compute that. I have some of the figures.

Q. Well, 10 per cent would be $270,000.00.

A. Yes, 10 per cent on that figure. I don't know what the operating costs are.

Q I am not considering operating costs at all, I am talking about what would be a fair rate of return after paying operating costs.

A Ordinarily, in a business of that kind, you would expect to pay 10 per cent.

Q That would be $270,000.00. And there would have to be something set aside to amortize that investment, wouldn't there?

A Depreciation or amortization, whatever you want to call it. The investment would have to be retired over the life.

Q What would you figure that? You know the character of that [fol. 1269] property.

A I don't know how long it has been in service. If it has 18 years further to go, it might be, over a period of 25 years or more, 3½ or 4 per cent per year.

Q Won't it have to be renewed frequently during that time?

A I couldn't say. It may. I don't know just what the details of the property is that you have in mind. I can look it up in Mr. Uebelacker's exhibit, if it is a shorter life property, naturally the rate would have to be higher.

Q The gasoline producing station—manufacturing station?

A That would have to be renewed in less than 30 years, yes.

Q And the rate of depreciation would be rather high on that class of property, wouldn't it?

A Rather high, yes.

Q In fact, to keep that property up, wouldn't it take 10 per cent a year to do it?

A Oh, I think that would be rather high. That is about the same rate that is generally allowed in a manufacturing business on machinery operating under high speed and strain. 10 per cent would be too high.

[fol. 1270] Q For depreciation and amortization?

A You couldn't have both. The last time you retired it why of course you would be making a replacement. The depreciation reserve would take care of that. You are replacing it at intervals of 15 or 20 years, you would not be amortizing it also.

Q You would have to keep that plant up to a hundred per cent efficiency or eighty five per cent efficiency, to the last day of its use.

A Yes, but to that extent you would never have both depreciation and amortization.

Q You wouldn't?

A No, your reserve will take care of part of your renewals, and a most of the property, or some parts of it, will probably last a full 20 or 25 years, whatever the life would be, there your depreciation reserve would restore your capital without any amortization. As to the rest of it, there would be some overlapping of the two charges.

Q What I am getting at is this, that that would have to be taken out before there is any 50 per cent to divide, wouldn't it?

A The account would have to be considered, yes.

[fol. 1271] Q If there is $2,700,000.00 worth of property, as shown by Mr. Uebelacker's appraisement—and by the way, did you check that appraisement?

A On the gasoline, no, but I will accept his figures.

Q If there is $2,700,000.00 of property, and there was a return from that property of $500,000.00 last year after paying expenses of operation, how much of it would you say should be allocated to the gas and how much to the gasoline?

A You have injected elements there with which I am really not familiar. My thought is that after all these expenses have been taken care of that the profit resulting from this business, from the correctly apportioned analysis, should be divided equally between the two departments. What they amount to in dollars and cents I can't say without having my notes. I will be glad to check this up and make a statement that would conform with the other statements here—be consistent with them—and see what the results will be.

Q Well, suppose they got $512,000.00 last year.

A Well, if the net is $512,000.00, 50 per cent of that would be $260,000.00, assuming your figures are correct.

[fol 1272] Q You say that should be turned over to the gas company?

A Yes, if that reflects the correct analysis.

Q Then the gasoline company would have to, out of this $260,000.00, take care of the profit on its investment and amortization and depreciation?

A Out of the remaining half?

Q Yes.

A Yes.

Q And it couldn't do it, could it?

A I don't know, without seeing the figures and checking them up.

Q Well, you do know, if the statements I am making are correct, you know that, don't you?

A I am assuming that, but I say there are elements with which I am not familiar.

Q I say, taking my assumptions as true that there is $2,700,000.00 of property, $260,000.00 wouldn't be enough to pay a fair return and the depreciation in that property, would it?

A No, if those are the only factors that enter into it.

Q Well, what other factor could enter into it?

A I can't say without referring to the notes. I will be glad to check [fol 1273] that up. If that is a correct analysis of it, I will agree with you promptly on it.

Q There ought to be more than $260,000.00 applied to the gasoline company if that is a fact, oughtn't there?

A Yes, they ought to have the depreciation and they ought to have 10 per cent.

Q Before anything is paid to the gas company?

A No, the 10 per cent comes out of their share of the profits. It may be 10 per cent, and it may be 20 per cent, I can't say. They couldn't take 10 per cent out of it and then divide the difference.

Q Why not?

A The 10 per cent is part of the property. If you make a 50-50 division after taking 10 per cent out of it, it would not be a 50-50 on the true net.

Q. Isn't the gasoline company entitled to a fair return before it divides on this purely arbitrary basis that you take?

A. I certainly want to see them get a fair return, but I can't follow you as to some of those items. There is an overlap some place. Maybe I don't understand your question.

Q. You have stated that Mr. Uebelacker's overhead charges are [fol. 1274] not correct.

A. They are too large.

Q. Did you ever build a plant like this?

A. I haven't built it, no, sir.

Q. Did you ever superintend the construction of a plant like this?

A. Not personally, no. People in our firm have; I have not personally.

Q. Did you ever have any experience or ever keep the account of overhead charges in the construction of a plant like this?

A. I didn't keep them, but I have analyzed the cost of construction of a good many and know what they do amount to. They do not run that high. The reason I can't run as high as Mr. Uebelacker is because he has items of expense in there that I think on the face are perfectly clear.

Q. Well, what are they?

A. He has one item in there as cost of financing of four per cent. A financing cost is to be distributed over the period for which the financing was incurred.

Q. Well, that is your theory, but if you have to hire somebody to sell your securities you have to pay for it?

[fol. 1275] A. I expect to pay for it, but it should not be charged to plant. Classifications of accounts show that the cost financing is not to be charged to capital; it comes out of the rate of return.

Q. What do you mean?

A. You are allowed a rate of return, say of eight per cent. You are selling some five per cent bonds in an unfavorable money market. Those bonds, let us say, were sold at ninety. That merely is an index and factor of the cost of money. If the bonds had been six per cent instead of five the discount would have been less, or might have been wiped out. I understand that Mr. Uebelacker does not say this amount is the discount on a bond; it is the sale cost; but the sale cost of securities is the cost to sell them under a proper financial program, which has a definite period and must be amortized over that period as a part of the money borrowed or money raised. His four per cent is not an unreasonable figure for the cost of financing, but it is an improper charge to include in capital.

Q. You don't allow it in your annual expense, do you?

[fol. 1276] A. No, but I say it comes out of the return. The eight per cent is not included in the operating expense. That is the amount we are trying to determine, after the operating expenses have been left, and just as the company has to pay its interest charges on a part of its capital out of the eight per cent return on its entire property, so it must pay what the financing cost on an issue of 20 or 30 or 40 year bonds over the entire life of the financing. It is an expense item and not a capital item.

Q. Then it should be put in in expenses?

A. Not in operating expenses.

Q. Then the company doesn't get it anywhere?

A. It is one of the costs that comes out of the eight per cent return.

Q. Well, I confess I don't understand what you are driving at.

A. Well, I am sorry I have not made myself clear. May I try to explain it another way?

Q. No, it don't make any difference. What other items has Mr. Uebelacker included that are not right?

A. That is the largest one. The only other one that I think is too high is the interest during construction at eight per cent. I think [fol. 1277] that is too high. I think the interest during the period of construction should not be higher than seven per cent.

Q. Why?

A. Because I think this company, with these enormously valuable gas reserves, the territory in which it is operating, the business that is available for it, could finance itself on a year to year basis with seven per cent money.

Q. If it didn't have any plant at all?

A. I say finance itself during the period of construction. Obviously it would have no plant at that time, it was just building a plant.

Q. Well now, you know, as a matter of fact, that if you go over the history of the company it didn't do it, don't you?

A. Well, what the company did during its history is not controlling, unless you are talking about the cost of the property. We are making a reproduction cost appraisal at this time.

Q. Yes, but don't you know the company could finance itself after it had this plant built as well as it could before it had any plant, and if it cost seven per cent after it had a plant built and going, it [fol. 1278] would certainly cost that much before.

A. I don't believe it would cost over seven per cent on the money market. It must always be explained in the light of the financing, the business conditions at that time, the money market at that time, and the form of the loan, whether it was a first mortgage bond, whether it was a note, whether it was a stock sale or whatever it was.

Q. Well, at what price could you, at the time this inventory was made, market a six per cent first mortgage bond on a property that had no plant but was just simply getting ready to put one in operation.

A. On a seven per cent basis.

Q. You could?

A. I think so.

Q. Do you know of any that was financed on that basis?

A. I have no particular one in mind. I study many instances of financing every year, and I don't recall specific instances, but I am satisfied that seven per cent is a fair cost of money for what we would be borrowing in the 1923 market.

Q. Suppose you had a fifteen year bond, would be about as long a bond as you could finance on it, wouldn't it?

[fol. 1279] A. 18 years.

Q. Well, suppose you had an 18 year bond six per cent bond.

A. A first mortgage bond?

Q. A first mortgage bond.

A. For how much?

Q. Well, the value of the plant.

A. The entire plant?

Q. Sure.

A. Well, you would not issue bonds for the entire value of the plant.

Q. You have got to get the money to build it with, and that is the money we were talking about. You were going to get the whole money to build this entire plant with, now, for seven per cent.

A. No, entire the plant we are allowing a rate of return of eight per cent.

Q. We are talking about the interest during construction. We have got to have this money during construction and got to have it all.

A. I think seven per cent during construction.

Mr. Diederich. There is no testimony you have to get it all.

[fol. 1280] Judge Ritz. You have to have it all before you get the plant up.

Mr. Diederich. Aren't you going to put in any yourself?

Judge Ritz. We have a right to have interest on our money.

The Witness. You are not financing your plant during the period of construction on 18 year bonds. You finance on temporary borrowings until the plant is up, and then you finance with permanent bonds.

Judge Ritz.

Q. You say temporary financing would be still cheaper than permanent financing?

A. Temporary financing on a seven per cent basis.

Q. You could finance that plant on a seven per cent basis?

A. During the period of construction, yes. Of course, temporary financing costs more than a ten year basis.

Q. You could get that money on a seven per cent basis?

A. Certainly, with all the assets that the company had back of it. That is what you are putting out your 18 year loan for. If you are talking about interest during construction 18 years don't apply, but I do think that an 18 year bond showing an eight per cent re-

[fol. 1281] turn would enable you to finance that on a basis of seven per cent with a one per cent margin of profit to you over 18 years.

Q. You think you could do that?

A. I do.

Q. Notwithstanding the experience of other people to the contrary?

A. I have heard some testimony on that subject. When you analyze it you often find they are talking about something else.

Q. Did you analyze Mr. Dickinson's testimony on that subject?

A. No. I haven't seen that testimony in this case. I am merely testifying that a seven per cent overhead charge is an ample provision for this capital charge.

Q. What other items?

A. Those are the only ones that I criticize.

Q. That is the interest during construction and the cost of financing?

A. I will give you that in a moment. I have my own set-up of overhead charges on that.

Q. Well, you have it in here, haven't you?

A. No. I figure my overhead charges as follows: Engineering, [fol. 1282] both preliminary and during the period of construction, 6½ per cent. I have allowed for engineering more than Mr. Uebelacker has. He has engineering and superintendence ranging from 2½ per cent to seven per cent, with three per cent in two accounts, 2½ in one account and seven in a fourth. He has pre-construction costs at 2½ per cent; I am allowing 6½ per cent on the entire property.

Administrative expense is two per cent, same as his; legal expense, 1½ per cent. I have the same figure. Insurance and taxes, one per cent; interest during construction, seven per cent, total 18.

Now, these overhead charges must be considered in connection with the direct charges that Mr. Uebelacker has included in his unit costs. He has liability insurance in there on labor at one per cent, loss and use of tools, 1½ to 2 per cent, field supervision from ½ of 1 per cent up to 8 per cent, timekeeping, 1 per cent, contingency from 2 to 5 per cent. On his material h ehas ½ of 1 per cent for purchasing, ½ of 1 per cent to 4 per cent for warehouses and his contingencies there range from 2 to 4 per cent. Those are all fair allowances, but on a set-up of that kind 18 per cent for general overhead charges is fair. I am not standing alone on that. An analysis [fol. 1283] of the decisions of Public Service Commissions of the appraisals of natural gas properties will show very few instances where they allow over 18 per cent and many where they have allowed 17 per cent. They are not all wrong. The argument arises how you will divide this. That is not so material. Some of these charges will not be incurred to the extent shown. That is an estimate, but the 18 per cent is inclusive of all items I have referred to.

Q. Whenever you want to emphasize anything you say it is the uniform decision of Courts and Commissions. Now you have made that statement again.

The Witness: Read my answer.

Judge Ritz: Well, some equivalent language.

Mr. Diederich: The witness referred to decisions of Commissions. The question of Judge Ritz now is, as I understand it, to what decisions of Commissions do you refer.

A. Just a moment. I have a memorandum of that somewhere. Well, I will tell you one while I am looking. It is the Southwestern Gas and Electric Company, by the Public Service Commission of

Louisiana, the natural gas decisions before the California Railroad Commission, decisions of the Oklahoma Corporation Commission, [fol. 1284] and quite a large number of natural gas cases, including the Oklahoma Natural Gas Company, the largest property they had in that state. I recall the decision in Little Rock, Arkansas. I thing you will find decisions of the Ohio Commission. I would be glad to supply a list of them.

Judge Ritz:

Q. How does any Commission or Court ever lay down any rule that any certain percentage is the proper charge for any overhead expenses? Don't they base their findings upon the evidence introduced?

A. They base their findings upon the evidence, and the evidence generally shows that a proper allowance for overhead expenses is 17 or 18 per cent.

Q. There might be other cases that show a difference from that, too, mightn't there?

A. Very little where the Commission accepted it. There is a good deal of testimony to that effect, also a good deal to the opposite effect.

Q. There is no case you know of where the Commission allowed more than 18 per cent?

A. I don't know of any on the entire property. A set-up will show—well, I have no doubt that there are some contrary cases, yes, but the general rule is quite the contrary.

[fol. 1285] Q. There isn't any uniform rule about it at all, is there?

A. Yes, there is a good deal of uniformity.

Q. It wouldn't do, then, for different kinds of property?

A. Yes, sir, ranges from 18 per cent down to 12.

Q. There is a good deal more overhead on one kind of plant than another.

A. Oh, yes, on property that requires a long period of construction, like a hydro-electric property, the general overhead may run to 25 per cent.

Q. It would take a long while to construct the United Fuel Gas Company property, wouldn't it?

A. No. You put part of it in use while you are constructing the rest. On hydro-electric you can't operate any till the dam is completed. Here as soon as you bring your plant to Charleston you begin to earn money on a part of it; you go to Huntington and you earn part; you extend your line to Cedarville and you begin to earn some money.

Q. You earn it, but you don't get it.

A. I think you get it.

Mr. Diederich: You get it once a month, as we all know.

[fol 1286] Judge Ritz

Q Building transmission lines, for instance, wouldn't the overhead cost in that kind of work be a great deal more than it would in building a house?

A Oh, yes, you will probably have a construction period of two years on the largest single factor, and measuring your interest rate on one-half of that period, your interest charge might be 10 per cent But here is an interest charge on all property Mr Uebelacker has about 26 per cent on transmission property, 21½ per cent on production system I agree with you entirely that the overhead charges would be much higher on transmission, but if you take out the—you take cost of financing here and some of the other items there and bring it down to the more general allowance for overhead charges and 18 per cent of the entire property is a fair allowance

Q You have figured on this plant having a life of 18 years

A I have assumed that from testimony of your witnesses

Q And the plant has to be amortized in that time, hasn't it?

[fol 1287] A Either retired, replaced through the depreciation reserve or amortized You are entitled to your capital back

Q How much would that take a year to get that back?

A Well, if it was all going to last until the exhaustion of the field it would take 1/18 of it a year

Q And if there were any replacements or anything of that sort it would take more, wouldn't it?

A Yes, sir

Q In other words, it would take something more than 1/18?

A That is, some parts of the property you might have to retire two or three times during the life from the original investment until 18 years from today

Q You can say that it would take more than 1/18 of it every year to keep the property up to hundred per cent efficiency and then retire it at the end of 18 years

A Yes, because some parts of the property will have a life less than from about 1910 till 18 years in the future

Q And an allowance of a million dollars a year would not be adequate for the purpose, would it?

A 1/18 of the book cost of the property I haven't the copy [fol 1288] of your book cost here, I don't know what it is I think it is about $26,000,000.00 from the testimony There is some property in there that could be sold—be some salvage, I don't know just what the total amount would be that would have to be retired I made no study of the depreciation rate

Q You made no study of what it would take for depreciation and by that I mean to keep the property up to hundred per cent efficiency during operation?

A I don't know what the actual rate is, only I think the rate that has been testified to here of 5½ per cent, I think it was, is taking care of it all right I think your own practice indicates pretty well what the company thinks of it

Q. That would take care of the depreciation, that is, the maintenance of the property?

A. Yes, but since the large part of the property will be retired through the depreciation reserve, there is very little left for any other fixed charge. Amortization here is not an important factor.

Q. It isn't?

A. I don't think so. I think your depreciation reserve is going to maintain the integrity of your property here very well.

[fol. 1289] Q. Well, when it does, and the 18 years expires, what is going to become of it?

A. You will have your property back through the depreciation reserve, except that property which has an unexpired life, representing recent renewals. You will have to have an amortization on that, and that will be a very small amount, because I can't imagine you people making any very large expenditure for plant when the exhaustion of the field is within two or three years staring you in the face.

Q. You can't?

A. No.

Q. Don't you know it will be absolutely necessary just at that time to make very large expenditures if you want to get the gas out?

A. For what?

Q. For wells and for compressors.

A. You may have to put more compressors on, but they are not an entire loss. You can move them from one place to another. There is a large salvage value in any compressor you put in within two years in the field.

Q. What would you use it for?

[fol. 1290] A. Somewhere else, other fields or some other lines in this state.

Q. How many lines do you think will be in this state 18 years from now?

A. I don't know. You have called attention to a good many lines. Now, compressors are shipped to Oklahoma, Kansas and down in the state of California. It is just as likely that 18 years from now that you may have found some further gas reserves and that the provisions that have been made for depreciation and amortization may have pretty well retired your plant by that time, and still leave you with property that you can use for five or ten years in the future.

Mr. Doolerich:

Q. Isn't that a reasonable assumption, that there will be new fields?

A. I think so, because I have been hearing the same kind of testimony every time I have been in West Virginia, and there has been a great deal amortization already made here, but I don't see that any recognition was given to it in the rate base on this property.

Judge Ritz:

Q. Has any witness suggested that 18 years was the life of this field except you and Mr. Jirgal in this case?

[fol. 1291] A. I have not testified from my own knowledge. Mr. Davis says so in his report.

Q. He nowhere estimates the life of the field to be 18 years, does he?

A. The entire set-up of the appraisal is on the basis of 18 years, and that is the appraisal I am talking about.

Q. Of his appraisal?

A. Of the gas reserves, yes.

Q. Where do you get it on the basis of 18 years?

Mr. Diederich. In connection with that, find his estimated table, so much money received each year for 18 years.

A. Look at table number five in Davis exhibit number Z.

Judge Ritz:

Q. That is purely a suppositious exhibit he made up?

A. Yes, sir.

Q. And said to be.

A. Yes, that is the report to which I am basing all my attention. It was also his estimate of the amount of gas which he assumed would come out in 18 years that Mr. Uebelacker accepted and on which he applied his five cents per thousand cubic feet—gas under ground. I [fol. 1292] am not testifying as to the life of 18 years, I am also assuming it, but I am assuming that they meant what they said.

Q. Where do you get in that exhibit any estimate of the amount of gas in the ground? Let me ask you if the exhibit in which he fixes the amount of gas in the ground is not his exhibit number one.

A. I am talking about his exhibit number Z, on which he bases his appraisal of thirty three million. He is appraising the gas under ground, which in his large exhibit number one he determines to be the value of the assets that he appraises.

Mr. Diederich. Doesn't he state in that exhibit that it is gas under ground?

A. Yes, he states what it is. He refers to an 18 year period in the text of his report.

Judge Ritz:

Q. What does he say about it?

A. I will find it. It is here. I will show the tables in which he applies it. I will just call attention to quite a number of them and clear that up.

Q. What I am getting at is this, the theory upon which the plaintiff in this case has proceeded hasn't any relation to 18 years or 20 years or 15 years.

A. Oh, I think it has.

[fol. 1293] Q. The result would be just exactly the same no matter whether you have 18 years or 15 years, wouldn't it?

A. My criticism would be exactly the same.

Q. And it is stated in that exhibit that it is 18 years because if

you take out the same quantity of gas that was taken out in one year it would take 18 years.

A. Yes, and my criticism would be just the same if he found 25 years, but if he found 25 years the depreciation and amortization charge would be a much lower amount.

Q. Awhile ago you were criticizing Mr. Davis for saying 18 years and said you had heard testimony before this Commission ever since you had been in here, and critized hearing it, and I simply call your attention to the fact that Mr. Davis did not fix any life of the field at all.

A. He based his appraised value on 18 years. I simply called attention to it.

Q. Would his appraised value have been different if he fixed it on 20 years?

A. He would have found a very large figure in either event.

Q. It would have been the same figure exactly if he had based it on any number of years, wouldn't it?

[fol. 1294] A. No, I don't know that without checking his figures, but I will accept that and say my answer would be exactly as embodied in my exhibits, with this exception, that you are then charging too much in your operating expenses for depreciation.

Q. And the depleted value of the property would be higher, too, wouldn't it, in that event?

A. Yes, that would follow naturally.

Q. And one would offset the other?

A. No, it wouldn't.

Q. Why wouldn't it?

A. Well, there are a good many other factors that come into it. There would be various classes of property that I might say would have a reasonable life of 15 years, but wouldn't have a reasonable life of 25 years during the period by which Mr. Davis would extend the life of his field. It might be just that margin that would throw some classes of property from one group into another, that is, that would have to be renewed during the life of the field and that would not have to be renewed. It is not a factor of great consequence but from a mathematical standpoint it would have that effect.

Q. The reason I call your attention to it was your criticism that [fol. 1295] Mr. Davis said it was 18 years and you believed it would have a longer life?

A. No, no, you misunderstand that. I have not fixed a life of the field. I don't know. I am no geologist in gas matters. I do know that in former cases affecting this company eminent geologists have testified to a life of the field very much shorter than this.

Q. Your exhibits are based on a period of 18 years, aren't they?

A. They are based on Mr. Davis and Mr. Uebelacker's exhibits.

Q. Can you answer my question?

A. If they are based on 18 years mine are.

Q. Is yours based on a period of 18 years?

A. Mine is a criticism of theirs. I have no independent valuation.

Q. You based your depreciation on that, didn't you?

A. Yes, I assumed they meant 18 years when they said it.

Q. If the field was exhausted in five years, the depreciation rate would have to be a great deal greater, wouldn't it?

A. Oh, yes.

[fol 1296] Q. Now, you say they said it. Will you take Mr. Eckelacker's report and say where he said the life of this field was 18 years?

A. He has not said 18 years, and I have not so testified, but he has accepted the gas content from Mr. Davis's report.

Q. What has that got to do with the life of the field?

A. Mr. Davis said the gas content would have to be taken out over 18 years.

Q. He didn't say that. He said he assumed that, he assumed that if the same rate would go on it would take 18 years.

Mr. Diederich: It has been stated several times. I think it is clear.

Judge Ritz: It is not clear to the witness, though.

The Witness: Sure, it is perfectly clear to me.

[fol 1297] Redirect examination

By Mr. Diederich:

Q. Mr. Hagestad, on yesterday Judge Ritz put you a hypothetical question on the assumption that the earnings of a company having an investment of approximately $2,700,000.00 in gasoline amounting to about $450,000.00 in earnings, and asked you certain questions as to rate of return, depletion and so forth. I will ask you whether or not, if it should appear that the earnings on such capitalization during 1924 amounted to $450,000.00, and for 1923 it should appear that the net earnings of the same company were $1,800,000.00, and for the same company during the year 1922 were $2,700,000.00, and for 1921 were $1,200,000.00, and for 1920 were $2,400,000.00, what would you say as to whether or not the earnings for 1924 reflected a normal or an abnormal market and an abnormal condition in the gasoline business?

A. I would say that they reflected an abnormal condition—that is [fol 1298] they are below the normal established in previous years.

Q. Now, I will ask you what you have to say, if the records of the United Fuel Gas Company and the Virginian Gasoline and Oil Company, being an associate or subsidiary company of the United Fuel Gas Company, if its books actually show net earnings for the year 1924 of $1,000,000.00 and the income for 1923 and for 1922 and '21 and for '20 showed the amounts I have just said to you in the previous question, what would you say as to whether or not the conditions in the gasoline business during 1924 were normal or abnormal?

A. Abnormal.

Q. Judge Ritz also asked you yesterday about the interest charge during construction, and you said you thought that seven per cent was a fair interest charge. Do I understand you that that means

seven per cent a year or seven per cent covering the entire time of construction?

A. It means not seven per cent per year, but it means that all the interest charges which would ordinarily be incurred in providing funds during the period of construction would aggregate an amount equal to approximately seven per cent of the direct labor and material expenditures. It may be that the company would pay [fol. 1299] eight or nine per cent for some money, it may be that it would pay less than seven per cent for some money on part of the expenditures or temporary financing. The construction work might extend over two years, in which event that interest rate would apply for one-half the period, since the beginning of the two year construction period would find the company with cash on hand with no expenditures made, at the end of the two year construction period the expenditures would already have been made and the cash exhausted, consequently the interest rate, whatever that may be, can be computed for only one-half the period of construction. As to the transmission lines, the construction period would undoubtedly be two years. As to many of the minor classes of accounts, installation of distribution systems, the distribution accessories, the construction period would be comparatively short, so that the interest rate would not apply on those classes for even an entire year. The seven per cent does not necessarily mean that the company could not incur more than seven per cent for financing, because, being a series of temporary loans, or possibly one continuous program over the two year period, variations are provided for.

[fol. 1300] Recross-examination.

By Judge Ritz:

Q. You put in a brief yesterday on gasoline and oil prices. The proposition you were attempting to demonstrate was that oil and gasoline was coming back to its former price, and I believe you made the statement that gasoline stocks were constantly going down and consumption going up. Is that correct?

(Witness starts to examine paper.)

Q. Oh, I don't care to take the time to refer to it, if you can't answer the question without reading a lot of papers.

A. I have covered substantially the query contained in your question in a one-page exhibit marked 8.

Q. Well, will you answer my question?

A. Yes, I covered that matter and showed that gasoline stocks are going down. That is correct.

Q. Now, as a matter of fact, you know that the reports for the month of December show that the largest gasoline stocks in the history of the business are on hand, don't you?

A. There has been an increase in December in the gasoline stocks on hand. It appeared in this morning's paper. That is a reflex of [fol. 1301] a seasonal condition. The stock of gasoline always in-

creases during the month of December because of the great reduction in the use of motor vehicles as compared with the summer months, and it is through the winter months that the surplus stock must accumulate to take care of the rapidly increasing consumption in the spring and summer months. The condition that you refer to in your question is well reflected in the statistics in exhibit No. 8 in the year 1923, where the monthly data is presented. It is also true in the years 1922 and '21, for which the monthly statistics, however, are not contained in exhibit 8. The increase in December is a normal and natural condition, due to seasonal operations.

Q. Now, I just asked you a very simple question and you haven't answered it yet. I asked you if the stock of gasoline in the month of December wasn't the largest it had been in the history of the business. Now, you can answer that without making an argument.

A. I don't know that it is the largest——

Mr. Diederich. I don't think the witness ought to be lectured to. Judge Ritz asked you if that stock in December was not the largest [fol. 1302] in the history of the business. What is your answer, yes or no?

A. I don't know. I believe it is not the largest in the history of the industry. It is a relative condition, and assuming that it were the largest in the history of the industry, it could be considered only in relation to the consumption, which is breaking all records by far greater margins than the increase in stock. The relation between stock on hand and consumption is working into a more favorable situation.

Judge Ritz:

Q. Now, you stated in your explanation awhile ago that the large stock on hand was accounted for by the fact, I believe, that in the winter time there was little consumed and stock was saved up for the summer months where they had big consumption, is that correct?

A. Yes, they had less consumed in the winter.

Q. Now, as a matter of fact, wasn't there more consumed in December than in any month in the year?

A. No, sir. There may be heavier drawings on stock, but that would have to be adjusted through the exports. The exports have been running at enormous rates.

Q. How much less was consumed in December than July?

A. I have not the December consumption figures here.

[fol. 1303] Q. Then if you don't know how much was consumed, why do you say there was not more consumed than in any month in the year?

A. I am referring to the tendencies, so far as they are reflected here up to and including the month of November. The consumption figures, standing alone, can be considered only in connection with the exports. However, the exports statistics will show. I do not have them for the month of December. I have, however, this newspaper clipping showing the increase in stocks, but that, I think, was a natural seasonal movement.

Q. You don't know what the consumption was in December?
A. Only as it appears in the newspaper.
Q. Do you know what it was in November?
A. The decrease in stocks?
Q. No, the consumption.
A. Yes.
Q. What was it?
A. The domestic gasoline consumption in November was 695,000,000 gallons, the index number 243.
Q. What was it in July?
A. 789,000,000 gallons, an index number of 276. August was the [fol. 1304] highest month in the year.
Q. What did you say September was——
A. I didn't give you what September was.
Q. I mean November.
A. November was 695,000,000 gallons, and index number of 243. Now, the gasoline stocks during those same months—in July the stock was 1,470,000,000 gallons, as against the November figure of 1,133,000,000. The index number for the gasoline stocks on hand in July was 311, compared with an index number of 239 in November. The highest gasoline stocks on hand during 1924 were in June, when the stock was 1,649,000,000 gallons, and the index number stood 349.
Q. What was it in January, after they had stored it up for the cheap period?
A. In January it was 1,200,000,000 gallons, and the index number was 254.
Q. What was it in February?
A. 1,383,000,000 gallons, and the index number was 293.

(Witness stands aside.)

[fol. 1305] C. E. Krebs, introduced on behalf of the defendants, testified as follows:

He resides in Charleston, West Virginia; — a member of the firm of Clark & Krebs, is a mining engineer and geologist, and engaged in that business more than thirty years; graduate of West Virginia University in 1894; that three years thereafter did engineering work, construction of railroad, surveying, construction, etc., and up to 1900 was doing mining engineering and general engineering in the southern part of West Virginia in the construction of coal plants, development of coal property, stripping the geology, working up generally along the development of the resources of the state. 1900 to 1915 was assistant geologist to Dr. I. C. White in making reports of the several counties of West Virginia, worked principally in the southern part of the state. 1909 to 1911 gathered up geological data in the counties of Jackson, Mason and Putnam and prepared this data in manuscript form, together with the maps, and reported same to Dr. I. C. White, who edited it and published

the detail- report in book form in 1912. In 1912 did the same work in the counties of Cabell, Wayne and Lincoln, which was [fol. 1306] similarly published in 1913. In 1913 made detailed study of the geology of Boone county, which was similarly published, in 1914 did the geological work of Kanawha county and submitted the maps, reports, etc., to Dr. White, which report was published by the Survey. In 1915 I studied the geology and resources of Raleigh county and portions of Summers and Mercer counties. This was published by Dr. White in 1916. During that period my work took me throughout the state gathering data on oil and gas for the map of West Virginia published by the geological survey. Since 1916 I have been doing geological work and mining engineering up to the present time. That work has taken me over West Virginia and into Ohio, Kentucky, Texas, Arkansas and several of the western states. Dr. I. C. White is the state geologist of West Virginia, and I was one of his assistants.

I am familiar in a general way with the properties owned by the United Fuel Gas Company. I have studied the geology of the counties where their properties are located and gathered the data in regard to the oil and gas wells. I have studied the oil and gas data on adjacent properties in other counties, like Boone, and in Kentucky.

In my investigation I have come in contact with the matter of the extraction of gasoline from natural gas. In my investigations [fol. 1307] I have had drawn to my attention sales of the extraction privilege in the natural gas business. The conditions that usually arise are where the company having the gas will furnish it to another company, an operating company, who extracts this gasoline for a percentage of the product, or, in other words, on a royalty basis, whereby a portion of this royalty goes to the company operating gas wells or furnishing the gas, and the remaining part goes to the company taking out the gasoline. The one company that I have been doing considerable consulting work for is the Hope Engineering and Supply Company, of Mount Vernon, Ohio. They furnish the machinery and will extract the gasoline for a certain percentage of the gasoline, or they will furnish the machinery and you pay for it and they will look after the extraction for a certain percentage.

Within the last year I have — a client who asked me to get up figures on the extraction of gasoline from gas, and I have a bona fide offer in regard to the extraction of gasoline from a responsible bidder who agrees to furnish all the machinery and the expense of operating the same for a fixed royalty. This is all the contracts I can recall just now. The proposition to which I refer was based [fol. 1308] upon an assumed daily production of 10,000,000 cubic feet. Where the quantity of natural gas to be used is in larger volume the privilege would be more valuable. The larger amount of available gas would make the privilege more valuable, in that it would lessen the overhead expense and give a better chance in the market for marketing gas, and keep the running expenses lower than they would be on a smaller production.

I think there are five or six absorption plants belonging to the United Fuel Gas Company or its subsidary, the Virginian Gasoline & Oil Company. They are located at convenient places along the railroad.

The contract or the proposition to which I referred as a bona fide offer is that my client furnishes the gas at some convenient point along the railroad, and the contractor is to construct his plant at his own expense, operate the plant at his own expense, and market the gasoline, paying my client as a royalty one-third of the gross amount of gasoline produced, and placing this gasoline in tanks ready to be loaded onto railroad cars for market.

From my experience in the study of this question the value of the extraction privilege of gas of the United Fuel Gas Company, assuming that the company marketed during the year 1923 approximately [fol. 1309] 47,000,000,000 cubic feet of gas, is at least 50 per cent of the net profits for the sale of gasoline.

Cross-examination.

The customary way of making such arrangements is upon a royalty basis, and I know of one case where a royalty of one-third was provided for. The gasoline is marked the same as oil would be where they agree to put the oil in the tanks for market, which is on the same basis. I have known of different royalties being paid under arrangements of that kind, in some cases one-fourth, one-third, and in some cases one-eighth. I think the one-third royalty contract was a good contract for himself probably, as well as for my client.

If it is true that the Virginian Gasoline & Oil Company have twelve gasoline plants, I am not acquainted with all of them.

The Hope Engineering & Supply Company, with which I am connected, made a contract with the Charleston Dunbar Natural Gas Company for the extraction of gasoline, and they made it on the fifty-fifty basis, and the company having the contract busted, but that wasn't necessarily because of the contract at all. It is a [fol. 1310] fact, however, that the company failed, but there were other conditions besides the contract entering into the failure.

Redirect examination.

The fact of a normal supply and a steady supply of gas has something to do with the value of the privilege.

Recross-examination.

There are times when the price of gasoline is a little lower than at other times, but the larger amount would offset that, or more than offset it. If the same amount of gas was being received in exactly the same quantity each day in the year it would be worth more than if three times as much gas was being received on days when you had no demand for gasoline. It would be worth more to have the privilege of extracting the gasoline from 47,000,000,000 cubic

feet of gas a year delivered at a uniform rate than it would be to have the privilege of extracting the gasoline from that amount of gas delivered at three times as rapid a rate in December as it was in July. The United Fuel Gas Company is dealing largely in a business that makes the demand much higher on it in the winter months than in the summer months. Its deliveries are approximately three times [fol. 1311] in the winter what they are in the summer. I think legitimate capital could be obtained to pay 50 per cent. of the net earnings as a consideration for the privilege of extracting the gasoline, on the assumption that 50 per cent. of the profits on gasoline for 1919 was 146 per cent.; for 1920, 140 per cent.; for 1921, 100 per cent.; for 1922, 102 per cent., and for 1923, 80 per cent. I would like to have the privilege of having a contract like that and having it financed by some of my clients, which could be easily done. I think on the same assumptions that a contract could be obtained at a higher rate than 50 per cent. of the net earnings. I would not like to state just the amount until I have gone into it further, but I would think that you could get more than 50 per cent.

The foregoing was all the evidence introduced by the defendants.

The appellants introduced in rebuttal the witness W. J. Hightower, who testified as follows:

When I was on the stand before I filed statements showing gasoline expenses and earnings for the year ending December 31, 1923, [fol. 1312] and also for the year ending October 31, 1924, and since that time I have made up a statement showing the gasoline earnings and expenses for the year ending December 31, 1924, which is filed herewith marked Hightower Exhibit No. Z. Said exhibit is hereto appended.

I also made up a statement showing the amount of money borrowed by the United Fuel Gas Company since and including the year 1909, and I file that statement herewith, marked Hightower Exhibit Y. Said exhibit is hereto appended.

Cross-examination.

The $12,527,750 shown on Exhibit Y is the total amount of money borrowed over a period of years from 1919 down to and inclusive of 1924. The amount of bonds of the United Fuel Gas Company outstanding, as I remember it, is approximately $12,000,000. Some of these bonds are in the sinking fund—less than $2,000,000 in the sinking fund.

Referring to the statement Y, showing the total amount of $5,750,000 bonds issued, the witness stated, "The difference involved there, Mr. Diederich, covers the bonds issued and used in exchange of prior issues. That was not included in this statement. The issues that the company assumed rather than borrow the money are issued to themselves—assumed in the purchase of the property."

[fol. 1313] Exhibit Y reflects what the company has borrowed from time to time of new money and put into the business. Exhibit Z includes bond interest to the amount of approximately $34,000. It also includes the one-eighth royalty under the contract between the Virginian Gasoline & Oil Company and the United Fuel Gas Company. The increase in gross earnings of the gasoline company of December over June was approximately $77,000. November and December are both larger than the previous month, and the earnings in November and December are larger than in any month since May, 1924.

Redirect examination:

The increased production accounts for this increase of earnings, rather than any increase in price. However, there was a small increase in price involved.

At the request of appellant, it is ordered by the Court that the testimony of the witness H. G. Scott be reproduced in his exact words, as that is necessary to a clear understanding of his testimony, which cannot be readily presented in any other form.

[fol. 1314] H. G. Scott, having been first duly sworn, testified as follows:

Direct examination.

By Judge Ritz:

Q. Mr. Scott, where do you live?

A. Nitro, West Virginia.

Q. What, if any, connection have you with the United Fuel Gas Company?

A. Vice-president.

Q. How long have you been connected with that company in that [fol. 1315] capacity?

A. Since May, 1922.

Q. Prior to that time what was your connection with manufacturing or other industrial enterprises?

A. I was Vice President and General Manager of the Virginian Power Company.

Q. That is a company that operates in this vicinity?

A. Yes, sir.

Q. What business was it engaged in?

A. The production of power in wholesale quantities and the distribution of it.

Q. To consumers. That was electric power?

A. Furnished to the coal companies.

Q. I say, that was electric power.

A. Yes, sir.

Q. Mr. Scott, have you made any comparisons or observed any

facts which would enable you to make comparisons of the relative values of the use of natural gas for the purpose of generating steam, for the purpose of other use in manufacturing enterprises where the application of the heat is direct, for use in domestic service, including use for heating purposes in domestic service and for cooking pur- [fol. 1316] poses, and if you have made such observations I wish you would give the Court the results of them and the reasons upon which you base them.

Mr. Diederich: We object.

A. Yes, sir, I have. In the case of the Virginian Power Company, we built a plant with the idea of using coal which would cost us net about a dollar a ton delivered at the plant. Shortly after we started operation the price of coal started to rise. We endeavored to secure fuel which would, if possible, lower our cost of operation against the rising price of coal. We were able to secure from a carbon black company near Cabin Creek Junction gas at an even rate per day and per twenty-fours—that is to say, we could get an even flow during each hour of the twenty-four hours. The total amount of gas which was furnished approximated slightly in excess of a billion feet a year. At that time gas was selling for five cents a thousand cubic feet under those conditions. Of course, at that time for some reason they were ceasing to manufacture carbon black. Shortly after that the gas price started to rise, and that made necessary very careful study and experimentation to determine the relative value of those two fuels in that plant. The coal which we were using had been determined to have an average of 13,000 [fol. 1317] B. T. U's per pound of coal. Comparing the thermal content of the natural gas, we took 1,100 B. T. U's per foot of gas, although in certain localities in this section the B. T. U. content is slightly higher than that. A ton of 2,000 pounds of coal would therefore have 26,000,000 B. T. U's. Dividing that by 1,100 B. T. U's, you will get approximately 24,000 feet of gas, this being equal to a ton of coal on the basis of the calorific value only. We determined that where gas is burned to manufacture steam and coal has not been used and it is not intended to use it, the saving in initial cost of installation due to the fact that you do not have to build coal storage, coal elevators, coal bunkers, crushing machines, tracks, ash equipment, ash tracks, ash elevating equipment, amounted approximately to $12.00 a horse power of boiler installation in that plant at the time the tests were made, when costs were very much lower than they are today, that being approximately the year 1914 to '15, and the plant was built on costs obtaining in 1912 and 1913.

We then found that by actual operation it cost us over $4.50 per annum per horse power to fire the boilers with coal; it cost $1.50 a horse power to do so with gas. We found that the maintenance [fol. 1318] of stokers in that plant were averaging us eighty cents per horse power per annum; the maintenance of gas burning equipment averaged us thirty cents per horse power per annum or a saving of fifty cents. So that without taking into consideration the

fact that in the use of the fuel in the boiler its efficiency is a hundred, as compared to coal at eighty-five, or, in other words, gas is approximately fifteen per cent more efficient than coal under those circumstances, but not taking that into consideration, and merely resolving these financial credits in favor of gas into terms of feet per annum used, we found that the equivalent of a ton of coal of 13,000 B. T. U's. to the pound was 18,000 cubic feet of gas. In other words, putting it in dollars and cents, 18,000 cubic feet of gas, if it was charged for at the rate of twenty-five cents, would be equivalent in that plant, without taking into consideration the increased efficiency due to the use of gas, would be equal to $4.50 coal delivered at the plant.

Now, of course, there is a plant where the baser fuels can be used; but where you come to a plant that you cannot have sulphur, where the application of the heat is direct, and the affinity—and the article being heated might have an affinity for sulphur, for instance, the [fol. 1319] value of gas for that industry goes high, as is proven in this case which I have a good deal to do with.

The American Rolling Mills Company, at Middletown, Ohio, who are in the steel business, and who manufacture gas in large quantities by producer plants for their heating purposes, which are special, require 800,000,000 cubic feet of gas per annum, and pay forty-five cents for it.

Q. Is that natural gas?

A. Natural gas. And pay that amount in the face of the fact that frequently their service has to be interrupted during the winter, which gives, of course, a true gauge in an unregulated market of the value of the gas at that point and the service, because that is a contract which is in existence now.

On the question of the domestic use of fuel there has been a conservation program carried on by the Department of Mines of the United States Government, and the chief endeavor on their part has been to educate the householder to conserve gas, and in order to do so, they have had tests made, one of which was made under the supervision of the Bureau of Home Economics of the University of [fol. 1320] Ohio. Those tests were to show the different efficiencies of the different fuels. The record of that test, which I have here, published in an official bulletin is based, of course, upon a price of gas that we don't know anything about, so we would have to make an allowance as we go on, because the price of gas that they used for their calculations was dollar gas. They show in a test carried on on June 7, 1917, where they cooked a breakfast for six, identical articles but used natural gas, soft coal, coal oil, gasoline and electricity as fuels, that it took ten cubic feet of gas to cook the same meal that was cooked with ten and one-tenth pounds of coal, 1.1 pounds of coal oil, .9 of a pound of gasoline, and one kilowatt hour of electricity. Using electricity at three cents per kilowatt hour, which was the cost, coal at $6.50 per ton, natural gas at $1.00 per thousand cubic feet, coal oil or kerosene at 15 cents per gallon, and gasoline at 27 cents per gallon, the fuel cost was one cent for natural gas, 3.45 cents for soft coal, 2.5 cents for kerosene, 3.6 cents for

gasoline and 3 cents for electricity. However, if natural gas at 20 cents had been used as the basic price, of course it would only have been two-tenths of a cent as the cost of cooking that breakfast. The [fol. 1321] other figures would have remained the same.

They determined, at the same time, the comparative efficiency of these fuels on a basis of considering electricity in that case as 100% efficient, which they state, and we know, is not actually true, but it is pretty near 100% as compared to the others. In that case gasoline was only 20% as efficient as electricity, and kerosene 16% as efficient, coal 2.6% as efficient, natural gas was 34% as efficient. The efficiencies vary at another meal, where it might take a longer or a shorter time to cook it. The relationship of costs which I have given here follows through all of the tests which they have made. Now, of course, there are a number of reasons why that would be true, but this bulletin is based solely upon the question of costs and efficiency.

Mr. Diederich:

Q. Will you give us the number of that bulletin, please sir?

A. It is entitled, "Kitchen tests of relative costs of natural gas, soft coal, coal oil, gasoline and electricity for cooking, made by the department of Home Economics of the Ohio State University, at Columbus, Ohio."

Q. Is it dated?

A. It is dated June, 1917, and reprinted October, 1918, January, 1920, and April, 1920.

[fol. 1322] In the making of these tests, they adhered very closely, of course, to a scientific basis. They did do this, that coal, of course, had to be lighted before breakfast was started, or whatever meal they were testing, and incidentally, that when the meal was finished they permitted the fire to die out, whereas the stand-by losses in fires of that kind usually carry for a much longer period.

The value of convenience in this case was not considered. It is obvious and evident that it is more convenient to light a match than it is to haul up coal in a scuttle and shovel it in and take out the ashes and shovel them out and then have the ashes collected; and yet in spite of the fact that this service that is rendered by natural gas is so much more efficient, convenient and cleanly than coal, which would be the cheaper fuel, the price comparison shows that it is sold at vastly less than the cost of coal.

Sometime ago I endeavored to ascertain the cost of coal in this community delivered at the houses. It is difficult to obtain in Charleston, because nobody uses any coal to speak of. In Bluefield, where we went into eight or nine houses, we found that coal costs as [fol. 1323] high as $9.00 a ton delivered in the house. That was compared with the cost of two or three dollars at the mines. That is the only community that compared in this section of the state with Charleston or Huntington. As I could see it, a town like Beckley was of no value for comparison, because it was neither as large nor were the difficulties of getting coal in the houses in Beckley similar

to what they would be in Charleston. Bluefield is in the heart of the coal fields, and with that demonstrated cost it is safe to assume that the cost of coal delivered in the houses in Charleston would not be any less than the $6.50 given in these tests, and on the basis of these tests, with coal costing, for the breakfast of six, 3.45 cents, and natural gas at a dollar costing a cent, or, based on the price we have here, natural gas would have cost two mills—that is, 34½ mills that coal costs—or 1/17 of coal at $6.50 a tone.

Now, those reflect industrially and in the domestic service the result of my investigations in the value of the service.

Cross-examination.

By Mr. Diederich:

Q. Did you ever make an investigation in Charleston to find out [fol. 1324] whether coal ever did sell for $6.50 in Charleston.

A. No, I wasn't interested in the past.

Q. You didn't go to the Diamond Ice & Coal Company, or any other company that had ever furnished coal in Charleston, didn't inquire what had been the maximum price of coal in Charleston at any time in the past ten or fifteen years?

A. I wasn't interested in the past ten or fifteen years.

Q. Who is furnishing gas to the American Rolling Mills Company at Middletown, Ohio?

A. Columbia Supply Company.

Q. Is that a subsidiary of either the Columbia Gas or the Ohio Fuel Supply?

A. The Columbia Gas & Electric Company.

Q. So it is a subsidiary, then, of the Columbia Gas & Electric Company?

A. Yes, sir.

Q. Did you ascertain the price of coal at Middletown, Ohio?

A. Approximately, yes, sir.

Q. What was the price?

A. It was slightly in excess of the price we are paying in Cincinnati. I will give it to you fairly close. As compared with $3.83 [fol. 1325] at Cincinnati, there was an additional cost, when using Kentucky or West Virginia coals of about 50 cents in freight. Of course, their coals came from this section, rather than the Ohio field.

Q. So that the coal shipped from West Virginia to Middletown, that would make it then approximately four dollars and——

A. Twenty-three cents—thirty-three cents at that time.

Q. At that time. In Middletown, Ohio?

A. Yes, sir. That is located between Dayton and Cincinnati.

Q. As I understand, Mr. Scott, you haven't any data of the cost of coal to domestic consumers in the city of Charleston or Huntington?

A. No, sir, I couldn't find in Charleston, at the time I made the investigation, any distribution of coal that would give you any real idea of cost. It is not fair to take a cost of one ton either for or against the proposition. There is practically no coal used here for domestic purposes.

Q. Did you state in your testimony as to the cost of it for industrial [fol. 1326] purposes in Charleston or Huntington? Any data on that?

A. No, sir, I think at the present the carload freight rate into Charleston is 83 cents, having been recently established. Now, you would have to add the cost of the coal at the mine; then you would have to add, of course, the costs of distribution. If coal was selling at $2.00 at the mine for lump, which would be the domestic fuel, and this 83 cents freight rate, you would have $2.83 in carload lots, and then you would have to find out what the costs of distribution were. But for the sake of argument, taking no cost of distribution, taking the cost of coal in the mine as being 17 cents, and taking the freight as being 80 cents, and delivering the coal at the house for a dollar a ton, the cost of gas for the same purpose at the present rate would be two mills as against a little over five mills for the same service rendered by coal, or less than half the cost of coal if it only costs a dollar a ton.

Judge Ritz:

Q. Have you made any study of other expenses incident to the use of coal, such as would naturally arise in connection with the use of coal?

A. We did study, of course, this question, the deterioration of [fol. 1327] property in the house, the cost of removing ashes, inasmuch as most of the coal which is used will have a theoretical ash content of eight or nine per cent, but actually it will run up to fifteen and twenty or thirty per cent in domestic consumption, which means that thirty per cent of the coal you take in has to be hauled away; either the individual has to do it or the community has to do it. Those two elements, plus a third one, which has been a very serious one to contend with in many communities—as a matter of fact, laws have had to be passed to prevent smoke injuring property. It is a known fact that the real market for Anthracite coal has been made as the result of statutes preventing the emission of smoke from chimneys in eastern communities. The cost of smoke in Cincinnati has been so great as to cause the Civic Associations to give estimates on the losses that have obtained there and to do everything possible to prevent it, and we now have smoke inspectors.

Mr. Diederich:

Q. Well, you might add another consideration, the painting of houses in a community ought also to be an element of consideration, ought it not, and laundry, and soap—the additional amount of soap that would have to be bought to keep your hands clean by reason of the smoke in a community.

[fol. 1328] A. As a matter of fact, then, to sum up what you and I have both said, every element of cost and convenience that can be considered in the use of fuel shows that natural gas has a value that is not even approached by any other fuel that we know anything about.

Further direct examination

By Judge Ritz

Q Mr. Scott, are you acquainted with the per capita consumption of natural gas in the cities where it is used as a fuel? And by the per capita I mean consumer.

A Yes, sir.

Q What is the amount of gas consumed per family or per consumer in the United Fuel Gas Company's service?

[fol. 1329] A The United Fuel Gas Company's service in the year 1924, the average consumption per domestic consumer was 184,000 cubic feet.

Q Do you know what that is in the city of Columbus, for instance?

A In 1923, in the City of Columbus it was 112,000.

Q What can you say as to the temperature of the city of Columbus as compared with the temperature in Charleston and Huntington, where the principal consumption is?

A Well, the figures I have—the only temperature which makes any real difference is, of course, the difference in winter temperature. The difference in summer temperature doesn't have any effect. It is approximately four degrees colder.

Q Do you know what the average consumption per consumer is in the city of Cleveland?

A No, sir. I do not.

Q Do you know what it is in Cincinnati?

A In Cincinnati it is 78,000 for the year 1923.

Q Or less than half what it is in Charleston?

A Yes, sir, considerably less than half.

Q How is the winter temperature there as compared with Charleston?

[fol. 1330] too?

A Very little difference.

Q What are the rates in Cincinnati and Columbus, Mr. Scott? Would that have any——

Q It does have a bearing. I will add Dayton also. It has a still more marked effect in Dayton. In Dayton the consumption is only 70,000 cubic feet per domestic consumer. As the rate went up in all these cities the consumption went down. The average annual bill remains about the same; there is very little difference. There will be a sudden rise in the bill when the rate goes up, and then the adjustment in the use of the gas takes place and the bill comes down as the adjustment is made. That has been our experience in Cincinnati, in the city of Dayton it is the historical experience there, and Columbus.

Q That as the rate goes up the gross bills don't increase?

A To any appreciable extent.

At the request of appellant, it is ordered by the Court that the testimony of the witness C. F. Uebelacker be reproduced in the ex-

[illegible] are made so that it is necessary to a clear understanding of the testimony, which cannot be readily presented in any other form:

By Mr. Underwood, having been previously sworn, testified as follows:

Direct examination.

By Judge Blue:

Q. Mr. Schlueter, you have heretofore testified in this proceeding?

A. Yes.

Q. Have you ever made any experiments or do you have any knowledge of the experiments that have been made as to the relative efficiency and convenience of natural gas as a fuel as compared with other substances used for fuel purposes, other domestic fuel purposes or industrial fuel purposes, and if you have made such experiments or observed such experiments made by others, I will ask you to tell the circumstances under which they were made and the results that were obtained.

(Objection.)

[illegible] A. There were made in Cleveland in 1921 a series of tests on a standard house heating boiler burning, first the ordinary so-called Pittsburg coal with one of the commercial hydrous natural gas, methane coal and bituminous coal. Those tests were all run on the same boiler, and were run at constant load; that is they investigated the relative combustion efficiency of the different fuels but not necessarily the overall or useful efficiency. In other words, they simply indicated the proportion of the heat units contained in the different fuels which were useful turned into steam in the boiler. That has given us a comparison of the combustion efficiency of oil and of natural gas and in those tests they were found to be 77 per cent efficiency for oil as against 71 and I think it was two or three tenths for natural gas. In other words the difference was simply the loss of ashes in a ton of that kind; you would consider them practically the same. Then when came to a relative between the combustion efficiency of bituminous coal and methane coal

I have used in our own dwelling for the last 7½ years an oil burner burning another oil to that which was used in the test in [illegible] Pittsburgh, and from our experience of more than 7½ years in that dwelling where I personally used gas and I have found that the over all efficiency of the fuel which would be practically the same as the over all efficiency of natural gas under the same circumstances as indicated by those Cleveland tests was the equivalent of about 12½ gallons of oil burned where I had previously burned in the same dwelling and under the same conditions 100 cu. ft. of methane coal.

Now, that relative value was arrived not only the relative com-

bustion efficiency of the two fuels, but also what you might call utility efficiency, and represents, as well as the increasing combustion efficiency, the decreased use of fuel which results from having no stand-by so-called losses, in other words, no banking losses. With a coal fire, when we wish to raise the temperature, a certain amount of coal is burned in raising the temperature of the mass of fuel in the fire box, and at the same time when we shut off the drafts a certain amount of coal is burned while that temperature goes down, whereas with the gaseous or liquid fuel, controlled by a thermostat, the response is instantaneous. The minute the temperature arises to a [fol. 1334] certain point the fire is entirely shut off, leaving only the pilot light to insure reignition, and when the temperature drops the fire is instantly all on.

The net result of the equivalence of 120 gallons of oil per ton of anthracite is that the amount of each unit, in the form of oil,—or it would be the same in the form of gas as indicated by the Cleveland experiment,—necessary to perform the same work as is required in anthracite coal, is only 55 per cent of the heat units required in anthracite coal—65.7, I think it was exactly.

Bituminous coal is not as efficient in combustion in the ordinary household furnace as anthracite coal. The tests in Cleveland showed about 60—I think it was 63 per cent—63 or 4 per cent—efficiency for anthracite coal as a straight combustion efficiency to only 52 per cent combustion efficiency for bituminous coal. However, the conditions under which the tests were made were such that I think that range was a little wide. I think it would more nearly represent the difference if we set about 56 or 57 for the bituminous coal as compared to about 63 for the anthracite.

[fol. 1335] Now, compare that ratio to the 65 per cent to the 65 per cent over-all efficiency—that is, utility efficiency—which was the result of my own experience in my own dwelling with oil as compared to anthracite—and I want to keep plainly in the record the fact that there is an almost exact equivalent in combustion efficiency between oil and gas—the net result of applying that decreased efficiency of bituminous coal to the 65 per cent over-all efficiency of oil—the 65 per cent of heat units that were required in the form of oil that were required in the form of anthracite coal—is to give a net result of heat units in the form of natural gas required to perform the work of bituminous coal in house heating of about—cut out the heat units—to give the net result of the volume of natural gas in house heating required to perform the same amount of work that would be performed by one ton of coal as 15,000 cubic feet.

I also checked that by some experiments which were made under our direction in Edmonton, about a year ago, and the result was just about 15,000 cubic feet. In other words, from the two sets of experiments made in Cleveland and in Edmonton, and from my own personal experience in handling the heating of my own house, the conclusion in house heating, taking into account the fact that the [fol. 1336] liquid fuel or gaseous fuel is controlled instantly and does not have to be brought up to temperature and then lowered again as the heating requirements change, was to the effect that about 15,000 cubic feet was the equivalent of a ton of bituminous coal.

Q. Now, that calculation didn't take into consideration the other conveniences and savings in the use of gas as compared with coal?

A. No, that is a straight fuel equivalent calculation.

Q. Now, in addition to that you would have the advantage of firing the coal into the furnace, which is not required in the case of gas, of bringing the coal into the place where it is to be fired, carrying out the ashes and all that sort of thing.

A. That would be in addition. Back before the war, to my best recollection, that used to cost about five dollars a month. Now, allowing—that is, for a man to come in the morning and evening and tend the fire twice a day. What it would cost today I don't know, but that was the condition then, and in my individual experience we burned a little in excess of 25 tons of anthracite coal for the heating season of five months, which would be practically $25.00 for services [fol. 1337] for the five months, about a dollar a ton.

Cross-examination.

By Mr. Diederich:

Q. I believe you said it was bituminous coal, not anthracite coal——

A. My comparison in my own dwelling was between the use of anthracite coal and the use of oil. The Cleveland tests showed that the efficiency of oil and the efficiency of natural gas were practically the same.

Q. Yes, I understood that.

A. The Cleveland tests also showed that the efficiency of bituminous coal was less than the efficiency of anthracite coal. Now, applying that difference in efficiency between bituminous and anthracite coal to my own experience with anthracite coal gave me the net result of 15,000 feet per ton of bituminous coal.

M. S. Fouts, testified in substance and effect:

That he lives in Charleston, West Virginia, and is secretary and assistant treasurer of United Fuel Gas Company; that said company had, on the 31st day of December, 1924, 35,704 domestic consumers [fol. 1338] in West Virginia, and that the average paid by each of said domestic consumers for the gas consumed by them during the year 1924 was $39.42; that for the year ended December 31, 1923, it had 33,808 domestic consumers in West Virginia, and that the average paid by such consumers for the gas consumed by each of them during that year was $38.47.

Cross-examination.

That for the year ended December 31, 1923, said company had 84 industrial consumers, and for the year ended December 31, 1924, 56 such consumers; that he does not have the figures for 1922; that the 84 consumers in the year 1923 consumed 4,866,454,000 cubic feet, and the 56 industrial consumers consumed 2,849,224,000 cubic feet.

Stipulation re Facts

At the conclusion of the testimony as aforesaid, the parties hereto stipulated the following facts: That for the year 1923 the United Fuel Gas Company paid a dividend of 6 per cent. on its capital stock of $30,000,000, and that for the year 1924 it paid a dividend of 4.84 per cent on its capital stock of $30,000,000.

It is further stipulated that the Warfield Natural Gas Company [fol. 1339] had in Kentucky at the end of the year 1924 8,841 domestic consumers, who used an average of 144,400 cubic feet of gas and paid an average bill of $46.07 per year; that for the year 1923 it had a total of 7,998 such consumers, who consumed an average of 144,300 cubic feet of gas per year and paid an average bill of $46.02 per year; that for the year 1924 it had 14 industrial consumers, who consumed 176,198,000 cubic feet of gas each on the average for the year, and each paid an average bill of $52,919.42; that for the year 1923 it had 16 such industrial consumers, who consumed an average of 128,955,000 cubic feet of gas per year and paid an average bill of $38,740.12 each.

It is further stipulated that in addition to the property enumerated in the inventories filed herein the Warfield Natural Gas Company has acquired during the year 1924 an office building in the city of Ashland at a cost of $31,500.

It is further stipulated that the United Fuel Gas Company is offering for gas in the fields at the wells 8 cents per thousand cubic feet, and in addition thereto one-third of any increase which it may receive in rates, but in recent months it has been unable to purchase any at that price.

It is further stipulated that the statement attached hereto marked Hagenah Exhibit 6-A and 7-A are a division of the business of the [fol. 1340] United Fuel Gas Company and the Warfield Natural Gas Company between Kentucky and Ohio, the Exhibit 6 showing these two as a combined item, and this division being between the two states upon the basis indicated upon the exhibit. Said Exhibit 6-A, and 7-A are attached hereto, marked as indicated.

Judge's Certificate to Statement of Evidence

The foregoing narrative of the evidence having been prepared by counsel for the appellants, and notice thereof having been given to counsel for appellees, and no objections being made or amendments proposed, and it appearing to be true, complete and properly prepared, it is now approved by the Court and ordered filed in the clerk's office to become a part of the record in this case for the purpose of appeal.

Given under my hand this 17th day of July, 1925.

Smith Hickenlooper, U. S. District Judge, So. Dist. of Ohio, sitting by designation in the Eastern District of Kentucky.

[fol. 1341]

HIGHTOWER EXHIBIT No. 2—A

United Fuel Gas Company

Statement of Gas Capital Account as of October 31, 1924

	Distribution	Production	Transmission	Total
Pipe	$673,884.37	$1,510,798.55	$3,681,704.84	$5,866,387.76
Casing on Wells		1,432,156.11		1,432,156.11
Other Well Construction		3,995,716.50		3,995,716.50
Acreage		38,404,706.83		38,404,706.83
Rights of Way	2,469.36	40,535.35	77,156.64	120,161.35
Rights of Way Expense	4,190.44	47,764.19	69,886.87	121,841.50
Buildings	116,741.93	59,023.92	149,410.50	325,176.35
Fittings	54,596.03	85,997.82	59,970.99	200,564.84
Gate Valves & Other Matl.	24,438.33	49,732.27	42,830.13	117,000.73
Labor, Teaming & Freight	455,080.99	1,015,276.44	2,243,846.81	3,714,204.24
Regulators	25,895.70	1,887.70	3,613.38	31,396.78
Telegraph & Tel. Lines			114,048.09	114,048.09
Office Furniture	40,101.95	3,560.32	603.00	44,265.27
Large Tools	10,454.37	7,087.60	998.92	18,540.89
Meters	517,092.60	11,404.78	11,893.57	540,390.95
Compressor Stations			2,856,759.57	2,856,759.57
Measuring Stations	27,303.85	54,478.82	37,086.51	118,869.18
Service Lines	363,827.34			363,827.34
Horses, Wagons & Autos	18,240.71	19,459.39	4,660.68	42,360.78
Drilling Tools		77,795.12		77,795.12
Cleaning out Tools		51,842.08		51,842.08
Adjustment	9,261.91	833,642.31	14,868.44	857,772.66
Cost of Financing				195,331.49
Incomplete Construction				1,320,897.04
	2,343,579.88	47,702,866.10	9,369,338.94	60,932,013.45

[fol. 1342]

HIGHTOWER EXHIBIT No. 3—A

United Fuel Gas Company

Increase in Capital Expenditures from June 30, 1923, to October 31st, 1924

	Distribution	Production	Transmission	Total
Pipe	$36,923.39	$34,407.83	$119,224.57	$190,555.79
Casing in Wells		169,346.74		169,346.74
Other Well Construction		455,841.59		455,841.59
Acreage		48,119.90		48,119.90
Rights of Way	6.00	1,712.11	1,990.00	3,708.11
Rights of Way Expense	8.85	2,140.64	3,463.71	5,613.20
Buildings	5,892.59	3,963.91	10,107.27	19,963.77
Fittings	2,360.92	4,555.95	1,185.22	8,102.09
Gate Valves & Other Matl.	1,280.88	2,142.46	2,908.41	6,331.75
Labor, Teaming & Freight	22,510.61	30,870.78	66,322.64	119,704.03
Regulators	1,326.55	308.79	824.70	2,460.04
Telegraph & Telep. Lines			2,356.83	2,356.83
Office Furniture	3,369.43	5.48	15.00	3,389.91
Large Tools	983.54	631.87	350.00	1,965.41
Meters	56,942.67	853.03	1,416.83	59,212.53
Compressor Stations			173,126.94	173,126.94
Measuring Stations	773.26	3,098.71	1,253.22*	2,618.75
Service Lines	50,199.12			50,199.12
Horses, Wagons & Autos	2,770.09	1,635.25*	2,935.48	4,070.32
Drilling & Cleaning Out Tools		10,744.70		10,744.70
Cost of Financing				1,548.64
Incomplete Construction				858,894.89
Total Net Additions	185,347.90	767,109.24	384,974.38	2,197,875.05
Grand Total Capital Expenditures for Additions June 30, 1923, to October 31, 1924				2,348,422.53

[*Red in copy.]

[fol. 1343] HIGHTOWER EXHIBIT No. 4—A

United Fuel Gas Company & Warfield Natural Gas Company

Statement of Gas Sales and Expenses for Year Ending October 31, 1924

	M. C. F.	Amount	M. C. F.	Amount
Domestic	8,591,935	2,128,286.89		
Industrial	5,807,080	1,431,517.50		
Field	725,232	72,523.30		
Wholesale	29,076,835	4,178,618.81		
			44,201,112	7,810,946.50
Misel. Gas Earnings				18,192.05
Gasoline Royalty				282,143.76
				8,111,282.31
Less gas expense:				
Gas Purchased	10,400,361	695,240.54		
Production		1,221,581.42		
Transmission		625,307.73		
Distribution		254,570.33		
Commercial		134,805.24		
General		261,703.58		
General Taxes		498,087.93		
Federal Taxes		116,865.52	10,400,361	3,808,162.29
Net Gas Earnings (Before Depletion & Depreciation)				4,303,120.02

[fol. 1344] HIGHTOWER EXHIBIT No. 5—A

Statement Showing Compressor Station Investment and Expense of Operating Compressors for the Year 1923 and the Year Ending October 31st, 1924

Date	Investment	Operating expense
Dec. 31, 1923	$2,839,966.24	$474,691.20
Oct. 31, 1924	3,441,965.24	473,140.08

[fol. 1345] HIGHTOWER EXHIBIT No. 6—A

Statement Showing Total Gas Consumption for the Years Ending December 31, 1923, and Year Ending October 31, 1924, in the Following Cities

	M cu. ft. 1923	M cu. ft. year ending Oct. 31, 1924
Ashland	1,577,064	1,529,972
Catlettsburg	179,392	189,027
Louisa	88,255	82,451
Russell	57,722	58,877
Total	1,902,433	1,860,327

[fol 1346] HIGHTOWER EXHIBIT No. 8—A

Statement Showing Distribution Investment as of October 31, 1924, in the Following Cities

Ashland	$231,050 98
Catlettsburg	49,097 46
Louisa	19,079 49
Russell	16,041 64
Total	$315,269 57

[fol 1347] HIGHTOWER EXHIBIT No. 9—A

Total Amount of Gas Produced in Kentucky for the Year 1923 and for the First Ten Months of the Year 1924

Month	M cu. ft. year 1923	M cu. ft. first 10 months 1924
January	96,000	83,700
February	81,900	79,700
March	86,025	81,375
April	78,750	84,400
May	58,800	18,874
June	9,900	5,487
July	1,950	10,572
August	5,680	10,307
September	3,075	31,555
October	20,400	121,451
November	73,920	
December	72,540	
Total	588,950	527,421

[fol. 1348]

HIGHTOWER EXHIBIT No. 11

Virginian Gasoline & Oil Company

Gasoline Earnings by Months for Four Months Ending October 31, 1924

	July	August	September	October
Gross Gasoline Earnings	75,541.22	80,112.20	104,620.19	101,190.52
Operating Expense	38,635.63	45,669.75	52,092.81	64,199.57
General Expense	4,827.89	6,889.69	5,501.23	5,742.74
General Taxes	1,979.60	1,979.14	1,981.16	1,999.41
Bond Interest	2,863.96	2,857.62	2,857.62	2,857.62
1/8th Royalty	8,779.42	9,499.81	11,984.38	13,612.58
Total Expense	57,086.50	66,896.01	74,417.20	88,411.92
Net Earnings (Before Federal Taxes & Depreciation)	18,454.72	13,216.19	30,202.99	12,778.60
Federal Taxes	834.64	179.82	2,303.17	125.12
Depreciation	11,777.61	11,777.61	11,777.61	11,777.61
Net Gasoline Earnings	5,842.47	1,258.76	16,122.21	875.87

991

[fol. 1349]

Hightower Exhibit No. "Y"

United Fuel Gas Company

Statement of Borrowed Money Years 1909 to 1924, Inclusive

	Cash	Bonds	Total
Year 1909:			
First Nat'l. Bank, New Bethlehem, Pa.	10,000.00		
Peoples Nat'l. Bank, East Brady, Pa.	5,000.00		
First Nat'l. Bank, Clarington, Ohio	5,000.00		
Peoples Nat'l. Bank, Sistersville, W. Va.	5,000.00		
Peoples Nat'l. Bank, Zeninople, Pa.	5,000.00		
First Nat'l. Bank, Emlenton, Pa.	20,000.00		
Brookville Title & Trust Co., Brookville, Pa.	10,000.00		
Clarion Co. Nat'l. Bank, Knox, Pa.	8,000.00		
Western Trust Co., Chicago, Ill.	46,000.00		
" " " " "	5,000.00		
P. A. Myers, Chicago, Ill.	10,000.00		
Union Nat'l. Bank, Pittsburgh, Pa.	100,000.00		
Standard Oil Company, New York	100,000.00		
" " " " "	100,000.00		
			429,000.00
Year 1910:			
Standard Oil Company, New Jersey	510,000.00		
" " " New York	357,000.00		
Ohio Fuel Supply Co., Pittsburgh, Pa.	868,000.00		
			1,735,000.00
Year 1911:			
Standard Oil Company, New York	178,500.00		
" " " New Jersey	101,000.00		
Ohio Fuel Supply Co., Pittsburgh, Pa.	270,500.00		
			550,000.00

Year 1912:			
Standard Oil Company, New Jersey	214,200.00		
Ohio Fuel Supply Co., Pittsburgh, Pa	205,800.00		
			420,000.00
Year 1913:			
Standard Oil Company, New Jersey	100,000.00		
Treat & Crawford, Pittsburgh, Pa	50,000.00		
			150,000.00
Year 1914:			
Geo. W. Crawford, Pittsburgh, Pa	86,750.00		
Standard Oil Company, New Jersey	38,250.00		
			125,000.00
Year 1915:			
Ohio Fuel Supply Co., Pittsburgh, Pa	36,750.00		
Union Nat'l. Bank, Pittsburgh, Pa	300,000.00		
A. B. Leach & Co., New York	100,000.00		
			436,750.00
Year 1916:			
A. B. Leach & Co., New York	300,000.00		
Hamilton Nat. Gas Co. (Pur. of Property)	125,000.00		
Davenport O. & G. Co. (" " ")	145,000.00	*2,387,000.00	
			2,957,000.00
Year 1917:			
A. B. Leach & Co., New York	370,000.00	*1,455,000.00	
			1,825,000.00

*First Mortgage 6% 20 Year Sinking Fund Bonds.

Statement of Borrowed Money Years 1909 to 1924, Inclusive—Contd.

	Cash	Bonds	Total
Year 1919:			
Bonds		*25,000.00	25,000.00
Year 1921:			
Bonds		#2,000,000.00	2,000,000.00
Year 1923:			
Virginian Gaso. & Oil Co., Charleston	300,000.00		
New York Banks, New York	1,250,000.00		1,550,000.00
Year 1924:			
Virginian Gaso. & Oil Co., Charleston	300,000.00	*23,000.00	323,000.00
Total			12,525,750.00

(Here follows Hightower Exhibit No. "Z," side folio page 1350)

*First Mortgage 6% 20 Year Sinking Fund Bonds.
#7½% Secured Gold Bonds.

[fol. 1350]

	January
Gross Gasoline Earnings	333,633.84
Operating Expense	90,140.80
General Expense	5,854.03
General Taxes	1,551.23
Bond Interest	3,023.49
1/8th Royalty	37,440.32
Total Expense	138,009.87
Net Earnings (Before Federal Taxes & Depreciation)	195,623.97
Federal Taxes	22,980.79
Depreciation	11,777.61
Net Gasoline Earnings	160,865.57

HIGHTOWER EXHIBIT No. "Z"

Gasoline Earnings by Months for Year 1938

March	April	May	June	July	August	September	October	November	December
337,974.91	183,586.81	191,090.78	112,858.72	75,581.22	90,112.20	[illegible]	[illegible]	[illegible]	[illegible]
91,109.74	90,882.53	69,256.79	87,509.45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5,793.90	5,365.69	6,199.28	5,963.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,975.71	1,983.17	1,974.86	1,967.18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2,871.20	2,874.17	2,871.20	2,564.69	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33,587.51	31,948.99	22,551.66	11,629.34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
125,288.06	121,680.45	103,853.73	71,602.24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
232,696.87	59,929.26	97,227.61	81,291.94	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27,613.66	6,019.84	10,681.17	3,675.64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11,777.61	11,777.61	11,777.61	11,777.61	11,777.61	11,777.61	11,777.61	11,777.61	11,777.61	11,777.61
193,295.60	42,151.91	74,768.23	25,736.29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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VALUATION

UNITED FUEL GAS COMPANY
INCORPORATED

DECEMBER 31, 1923

UEBELACHER EXHIBIT NO. 1

FORD, BACON & DAVIS
INCORPORATED
ENGINEERS

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VALUATION

UNITED FUEL GAS COMPANY
INCORPORATED

DECEMBER 31, 1923

:-:

UEBELACHER EXHIBIT NO. 1

:-:

FORD, BACON & DAVIS
INCORPORATED
ENGINEERS

LETTER OF TRANSMITTAL

(Signed Copy)

FORD, BACON & DAVIS
Incorporated

ENGINEERS

Valuations Reports Construction Management

115 Broadway

New York, May 26, 1924.

United Fuel Gas Company, Incorporated,
Charleston, W. Va.

Dear Sirs:

We hand you herewith our report upon the valuation of the physical property, natural gas rights and leaseholds of the United Fuel Gas Company, Inc., and its subsidiaries, Warfield Natural Gas Company and Cabin Creek Gas Company, existing December 31, 1923.

Very truly yours,

FORD, BACON & DAVIS, INC.

REPORT.

VALUATION

UNITED FUEL GAS COMPANY
Incorporated

DECEMBER 31, 1923

Scope of Report

This report covers an inventory and examination, as of December 31, 1923, of the physical property of the United Fuel Gas Company, Inc. The inventory was prepared in part from the books of the Company and in part by actual count in the field. The examination of the property in the field, together with other exhaustive checks applied, provided a complete verification of the entire inventory and a basis for the determination of the amount of deterioration existing in the component parts of the units of physical property.

A complete description of the work is contained in the following paragraphs under the several major property headings.

Based upon the inventory, as verified, estimates have been made of the costs of reproduction new and less observed deterioration of the physical property as of December 31, 1923, using prices of labor and materials current in the territory served on or about that date.

In addition to the above referred to estimates, based upon the physical property, an estimate was made of the value of the leaseholds and natural gas rights held by the Company at the date of the valuation. For this purpose and as a basis the estimates of recoverable gas remaining in the proven and probably productive territory were used as reported upon by Mr. Ralph E. Davis. The leaseholds to which no gas content was assigned by Mr. Davis

were priced at present day cost of acquisition by the Company.

A description of the principle involved and the computations in detail are contained in the following paragraphs under the heading "Leaseholds and Natural Gas Rights".

No attempt has been made to verify the Company's legal title to any of the property included in the inventory, nor has there been any effort made to search for property which was not designated as owned by the Company.

In the statements appended to this report the priced inventory is summarized in accordance with "A Uniform Classification of Accounts for Natural Gas Utilities prescribed by The Public Service Commission of West Virginia." The details of the priced inventories going to make up the totals appearing in these summaries and statements are included in additional volumes forming an integral part of this report. These volumes are entitled respectively:

Inventory of Production System Property
Inventory of Transmission System Property
Inventory of Distribution System Property
Inventory of General Property.

The property as it is physically located in West Virginia, Kentucky and Ohio is segregated in these inventories.

The properties of the Cabin Creek Gas Company in the Kanawha Field, West Virginia, and the properties of the Warfield Natural Gas Company in Kentucky, which are each owned entirely by the United Fuel Gas Company, are shown separately in the inventories. The total values have been included in the summaries as though the three were one company.

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Nature of Business and Territory Served

The United Fuel Gas Company, Inc., is engaged in the production, transportation and distribution of natural gas. Its production operations are carried on in what are known as the Spencer, Clendenin, Kanawha, and Triple State (Kermit) Fields. These fields are located generally in Jackson, Roane, Clay, Kanawha, and Mingo Counties in West Virginia, and Martin County in Kentucky.

It owns a few leaseholds, wells and pipe lines in the Counties of Wayne, Logan, Lincoln and Boone in West Virginia which are of minor importance since comparatively small quantities of gas are now procurable in these fields.

Gas from the several fields is transmitted for distribution in various towns in West Virginia in the territory extending from the producing fields in the most easterly counties to the western boundary of the State; also to towns along the northern and eastern border of Kentucky and the southern border of Ohio extending as far South as Williamson, W. Va., and as far North and West as Portsmouth, Ohio. The Company also supplies gas to the following companies in wholesale quantities.

Customer	Point of Delivery
Columbia Gas & Electric Co.,	Balls Gap, Cabell County, W. Va.
Ohio Fuel Supply Co.,	Ravenswood, Jackson County, W. Va. (at the Ohio River)
Hope Natural Gas Co.,	Cedarville, Gilmer County, W. Va.
Pittsburgh & West Virginia Gas Co.,	Cedarville, Gilmer County, W. Va.
Central Kentucky Natural Gas Co.,	Inez, Martin County, Ky.
Louisville Gas and Electric Co.,	Inez, Martin County, Ky.
Portsmouth Gas Company,	Portsmouth, Ohio.

In addition to the above companies, several small distributing companies are supplied with gas at city gates.

The following is a list of the towns in which the Company distributes natural gas in its own distribution systems:

United Fuel Gas Company, Inc.

Towns Served

West Virginia

Amma	Fort Gay	Nitro
Bannister	Gandeeville	Ona
Barboursville	Gay	Poca
Big Creek	Greyeagle	Quick
Big Sandy	Hunt	Ravenswood
Blue Creek	Huntington (Part)	Reedy
Buff Lick	Hurricane	Rich Creek
Cedarville	Jordan Creek	Ripley
Ceredo	Kanawha City	Sandyville
Charleston	Kenova	Silverton
Chelyan	Kermit	Sissonville
Cherry Tree Bottom	King	South Charleston
Clendenin	Kyger	Spencer
Coalburg	Lock Seven	Stoffel
Culloden	Logan	Three Mile
Eastbank	McClanahan	Walgrove
East Lynn	Milliken	Walton
Elkview	Newton	Williamson

Kentucky

Ashland	Chinnville	Louisa
Buchanan	Greenup	Russell
Burnaugh	Himlerville	Warfield
Catlettsburg	Inez	Wolf Creek

Ohio

Bradrick	Corryville	Portsmouth (Part)
Chesapeake	Ironton	Proctorville
Coal Grove	New Boston	Wheelersburg

The following tabulations set forth the total quantities

of gas sold in the Company's distribution plants and at wholesale points for the years ended December 31, 1914, to December 31, 1923:

Statement of Gas Sold—Total M c. f.

Year	Total Gas Sold	Gas Sold in Company's Distribution Plants	Gas Sold Wholesale	Other Main Line Sales	Gas Sold in Field
1914	29,283,145	11,560,164	16,118,993	116,174	1,487,814
1915	29,594,673	11,517,109	17,217,227	179,079	681,258
1916	39,290,446	14,697,325	24,042,967	126,259	423,895
1917	60,610,866	17,546,384	41,217,295	918,127	929,060
1918	57,035,146	14,235,708	40,338,657	1,765,691	695,090
1919	52,186,998	13,091,485	36,328,136	1,558,245	1,209,132
1920	52,509,210	16,417,968	32,919,420	1,865,618	1,306,204
1921	42,669,113	12,220,505	28,836,523	565,067	1,047,018
1922	47,625,222	13,051,244	31,994,593	1,121,008	1,458,377
1923	47,040,235	14,127,617	30,066,171(A)	1,462,340	1,384,107

Note:—(A) Companies—Columbia Gas & Electric Co., Ohio Fuel Supply Co., Hope Natural Gas Co., Pittsburgh & West Virginia Gas Co., Central Kentucky Natural Gas Co., Louisville Gas & Electric Co., Portsmouth Gas Co., Montgomery Gas Co., and sundry smaller companies.

Statement of Gas Sold—Distribution Plants by States

Gas Sold in Company Distribution Plants

Year	Total	W. Va.	Kentucky	Ohio
1914	11,560,164	5,080,153	2,564,830	3,915,181
1915	11,517,109	5,124,292	1,229,827	5,162,990
1916	14,697,325	6,493,895	1,490,506	6,712,924
1917	17,546,384	8,702,317	2,412,701	6,431,366
1918	14,235,708	9,851,204	1,976,815	2,407,689
1919	13,091,485	9,987,204	1,841,294	1,262,987
1920	16,417,968	11,454,063	2,300,789	2,663,116
1921	12,220,505	9,428,874	1,366,660	1,424,971
1922	13,051,244	9,288,725	1,569,993	2,192,526
1923	14,127,617	10,593,248	1,975,715	1,558,654

The Company purchases a portion of the gas which it sells from various independent producers located in the fields. The following table shows that the Company has purchased an average of 21.60 per cent of its sales during the two year period ended December 31, 1923:

Statement of Gas Produced, Purchased and Sold

Year Ended Dec. 31	Gas Produced (M c. f.)	Gas Purchased (M c. f.)	Total Sales (M c. f.)
1914	23,047,342	6,235,901	29,283,243
1915	29,504,970	10,601,402	39,106,372
1916	29,364,224	10,046,222	39,410,446
1917	40,923,636	11,649,250	52,572,886
1918	43,943,630	11,089,366	55,032,996
1919	42,235,895	9,956,102	52,191,997
1920	43,734,297	8,774,993	52,509,290
1921	33,648,975	9,240,020	42,888,995
1922	37,723,690	9,948,335	47,672,025
1923	37,334,842	9,669,758	47,004,600

Description of Mineral Property on Existing December 31, 1923

The United Fuel Gas Company controls by over 414,911 acres of land for the production of natural gas found upon the report of Mr. Davis this acreage may be classified as follows:

Proven Production	136,000 acres
Probable Production	136,000 "
Unproven	142,919 "

The Company has a total of 1091 productive wells located in the proven territory. This number of wells, segregated by major fields in which they are located, with average depths shown, is as follows:

Fields	Number of Production Wells	Average Depth to Pay
Spencer	[illegible]	[illegible]
Troublesome	[illegible]	[illegible]
Sunnyside	[illegible]	[illegible]
Virgin Area (Summit)		
West Virginia	[illegible]	[illegible]
Sunnyside	[illegible]	[illegible]

These fields are connected to a gathering system of 6x8 lines ranging in size from 2 in. to 10 in. and varying approximately 200 miles in length. The gas in the reservoirs enters transporting the gas to the various points of delivery, both wholesale and for distribution, ranges in size from 2 in. to 20 in. and totals approximately 180 miles in length. The Company owns and operates 10 compressor stations with a total of 10,500 horsepower in the transmission system. The following table gives the name, location and horsepower capacity of these stations:

West Virginia

Name of Station	Location (County, State)	Horsepower Capacity
Gauley Jct.	Summers County, West Virginia	1,500
Falls	Summers County, West Virginia	1,000
Kanawha Valley	Putnam County, West Virginia	750
Hurst	Braxton County, West Virginia	750
Sunnyside	Summers County, West Virginia	2,500
Summit	Wright County, West Virginia	1,500
Glenwood - Hensley Field	Summers County, West Virginia	500
Clarks	Putnam County, West Virginia	500
Spencer	Roane County, West Virginia	1,000
Creighton	Summers County, West Virginia	1,000
Wood	Braxton County, West Virginia	500
Total West Virginia		10,500

Kentucky

Name of Station	Location	(Horsepower) Capacity
Hale	Martin County	2000
Wolfbridge	Lawrence County	940
Total Kentucky		2,940
Total		34,340

The Company has 331 miles of pipe lines in its several distribution plants, varying in size from 2 in. to 16 in. in diameter. There are approximately 65,000 meters installed in these plants and for the sale of gas to retail consumers throughout its system.

Measuring stations owned wholly by the Company or jointly with the purchasing company are located at the points at which the Company delivers gas to its wholesale customers. The larger of these stations are located at Hale Gap for the delivery of gas to the Columbia Gas & Electric Co.; at Hammond for the delivery of gas to the Ohio Fuel Supply Co., and at Underville for the delivery of gas to the Hope Natural Gas Co. and the Pittsburgh & West Virginia Gas Co.

The Company owns and operates an extensive system of telephone and telegraph lines, approximately 321 miles in length, which connects its offices with the various compression stations, measuring stations, and important points in the field.

The Company owns motor trucks and passenger automotive which it uses principally in the distribution plants. It owns also draft horses, saddle horses, wagons and miscellaneous stable equipment which it uses in conducting field operations.

It has 14 drilling and 13 cleaning-out tool outfits used in drilling new wells and maintaining existing wells in proper operating condition. Shops and warehouses are

located at convenient points in the several fields and distribution plants.

The main office of the Company is located in Charleston, W. Va., where a three-story modern type office building is occupied. Field offices are located in the several fields, and a general office for the western division of the property is located at Huntington, W. Va.

A map, attached hereto, shows the location of the principal fields, transmission systems, compressing stations, measuring stations and distribution plants.

Summary of Valuation

Following is a condensed summary of the valuation of the physical property, including leaseholds and natural gas rights:

United Fuel Gas Company, Inc.

Condensed Summary of Valuation of Property as Existing December 31, 1923.

General Summary of All Property.

Classification	Estimated Cost of Reproduction December 31, 1923 New	Estimated Cost of Reproduction December 31, 1923 Less Observed Depreciation
Production System	$49,023,964	$44,279,576
Transmission System	13,667,923	11,154,326
Distribution System	3,269,363	2,894,896
General Property	679,149	594,742
Total	$66,640,299	$58,723,450
General Overhead Charges	7,083,311	6,357,046
Working Capital, including material and supplies	950,000	950,000
Total	$74,693,601	$66,030,496

The above estimates do not include any allowances for going concern value, franchise value, earning power, consolidation or developmental value, losses from early operation, or similar intangible elements of value.

The fact that no amount has been included for going concern in particular does not imply that such value is non-existent. In the case of the United Fuel Gas Company, its favorable position in producing fields where it controls large blocks of gas producing leases not subject to competitive drilling or exhaustion, enables it to secure gas at comparative low costs, thus justifying an unusually large amount of going concern value. However, as this value cannot be arithmetically computed it has not been included as a part of this valuation of physical property.

Inventory and Prices

As stated in the earlier paragraphs of this report, the inventory was prepared in part by the Company's forces under instructions from and supervision by Ford, Bacon & Davis, Inc. In the case of the compressing station equipment and of the majority of structures, an actual physical inventory in the field was made by engineers of Ford, Bacon & Davis, Inc. The verification of the inventories covered approximately 65 per cent of the total valuation and warranted the acceptance of them as practically correct.

In compiling unit prices, the general practices of the Company as to construction procedure and organization of crews for the prosecution of the work were adhered to wherever possible. Rates of labor and prices of materials actually being paid by the Company were used as a basis in the computation of unit prices.

Land

The Company prepared from its deeds a list of the parcels of land owned in fee and held for use other than

the production of gas. The larger parcels on this list were appraised by local real estate appraisers as to their value as of December, 1923. These appraisals, together with the book cost of the parcels which were not appraised, form the basis of the account "Land" in the summaries. The smaller parcels which it was not considered necessary to appraise are used as regulator sites and their value is nominal. No attempt was made to search the title or otherwise prove the ownership of any parcel of land. No observed deterioration has been computed upon land values.

Rights of Way

The cost of the rights of way has been included at the amount shown to have been paid for it in the Company's records for the years 1911 to 1923. The rights of way expense has been computed by applying a factor to the yearly expenditure for this expense as shown by the books of the Company for the years 1911 to 1923. The factor was arrived at by the consideration of the increase in the salaries and expenses of the employees securing rights of way.

Buildings and Structures

An inventory was prepared by the Company, giving the general size and description of each building owned, except the buildings in the compressing station plants used to house the compressing station machinery, and the general office buildings in Charleston and Huntington. The field forces made an actual physical inventory of all the compressing station buildings and accessory structures and buildings located at the compressing stations; the general office buildings and shops in Charleston and Huntington, and the principal warehouse buildings and measuring station structures located throughout the system.

This actual inventory included many regulator houses, dwellings, and such miscellaneous structures located in the larger distribution plants.

The unit prices, using rates for labor and materials at the several locations in which the buildings are located, were built up for each type of construction. Where the Company possessed a number of buildings which could be classified as being similar in construction, the cost of a typical structure was computed and this price applied to all buildings in that class. Otherwise each building was priced in detail.

The structures seen were carefully examined for the determination of condition, and all structures of a similar type of construction which were not seen were given the same condition as the average condition of the number of that type which were examined.

Gas Wells

The inventory of producing wells was prepared from the Company's records and was checked against every available record in the Company's possession. The inventory and subsidiary data showed for each well the location, date of completion, depth, sand, drilling cost and material content and cost. One check of the inventory of wells was afforded by a comparison with the records compiled and verified in the field by Mr. Davis in the preparation of his report. The result of the several checks was to verify the records of producing wells which are included in the inventory.

The actual cost for drilling, labor, teaming, freight, rig charges, and miscellaneous costs were analyzed in detail for a group of representative wells drilled each year in each field from 1913 to 1923 inclusive. This group of wells included:

5	Drilled	each	year	in	the	Clendenin Field
3	"	"	"	"	"	Spencer "
2	"	"	"	"	"	Kanawha "
2	"	"	"	"	"	Triple State (Kermit) Field

The unit cost per foot was arrived at for each well drilled each year and to the average cost per foot each year a factor was applied which brought that cost to a December, 1923, basis. This factor was obtained by analyzing each item of cost to show the labor rates for each occupation and to show the actual costs of materials which went into the construction of the rigs and into the cost of drilling the wells. The relation therefore of each of these basic costs or rates to the 1923 basic costs or rates was weighted in accordance with the value of each in the assembled cost per foot in arriving at the factor. A verification of the results obtained was furnished by the fact that they checked the prices charged by independent drilling contractors in each of the fields.

The material prices used in pricing the casing and tubing and shutting-in equipment at each well were computed from actual quoted prices of representative manufacturers to cover large purchases.

An allowance of 10.4 per cent was made for dry holes, which percentage was determined from a study of the drilling operations of the Company extending over a period of more than 12 years.

The deteriorated condition of the wells was determined separately for the "Gas Well Construction" account and for the "Gas Well Equipment" account. With reference to the first it was taken as a reasonable assumption that the wells were in a condition of depletion as was indicated by the decline in rock pressure. Based upon the records of this decline as compiled by Mr. Davis it was found that the average rock pressure of active wells had de-

clined 54 per cent from the original to the latest measurement.

The "Gas Well Construction" account is therefore taken to be in a condition of 46 per cent of new cost.

With reference to the account "Gas Well Equipment", it was found from study of past operations that the Company recovered approximately 85 per cent of the equipment in the well, the recovered material being in about 80 per cent condition. An amount representing this loss in use was deducted from the estimated cost of reproduction new in arriving at the deteriorated value of the account. Weighting the conditions of the two accounts results in the deteriorated condition of the present wells of 52 per cent.

Field Lines

The inventory of field line equipment was prepared from the Company's books and checked in several ways. The engineering records in the form of maps compiled from surveys made at the time of installation or at some subsequent period for mapping purposes, were used as a basis and the inventory was found to agree in practically all cases. In the few cases where differences did exist, it was because some information going to the Engineering Department had not been as complete as that received by the Accounting Department. It is the Company's practice to issue a completion notice for each pipe line constructed or changed, copies of which go to the Engineering Department, which in turn forwards a copy, after the job has been checked, to the Accounting Department. The Accounting Department however, has the additional check afforded by its warehouse transfer which it must receive on every job.

Another check is found in the fact that each well is connected to the system by lines which take the gathering

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system letter and the well number. These records were also found to be in agreement.

Additional check was furnished by the inspection for condition of the lines in place, which was actually made in the field and which disclosed no inaccuracies in the records.

The prices used in the accounts—Field Line Construction and Equipment—were built up to conform with conditions which actually exist as to employment of labor, hauling of materials, clearing of right of way, size of gang and organization used by the Company, and similar problems met in construction work of this kind. Labor rates paid by the Company are the bases in every instance and the material prices were obtained from actual quoted prices by representative concerns for purchases of pipe in large quantities.

From records of actual installation a percentage was developed to cover the cost of fittings installed in the lines.

A percentage representing the accrued deterioration of the lines was arrived at by actual observation of the pipe in place at points uncovered for the purpose.

Transmission Lines

The inventory of transmission lines was prepared from the records of the Company in the same manner as in the case of Field Lines and was subjected to similar checks through the engineering records and through field inspection. Approximately 32 miles of the larger lines were actually measured by chaining and the measurements made were found to compare exactly with the inventory maps of the Engineering Department made by survey at the time the line was laid or at a subsequent date when the lines were inventoried for map making purposes.

The cost of installation was built up to conform with

the actual practice of the Company as described under the heading, Field Lines.

The prices of materials were obtained from the actual quoted prices by representative manufacturers for purchases in large quantities. The percentage of fittings was developed from a study of the fittings installed in the lines as obtained from the records of the Company. A percentage representing the observed deterioration was arrived at from the actual inspection of pipe in place. This inspection covered every section of the system and is considered representative of all the lines in the Transmission System.

Distribution Lines.

The inventory of distribution lines was prepared in the same general manner as was described under the heading of field lines and transmission lines. In this case, however, it was set up by Distribution Plants.

The unit prices of labor and materials were developed in the same manner as has been described for field and transmission lines. The allowance for fittings in place was determined from the study of the Company's records of fittings installed in distribution plants.

The deterioration was determined in the same manner as for transmission and distribution lines, i. e., from actual observation of pipe in place at points uncovered for the purpose of the inspection.

Lines in General

With reference to pipe lines in general it has been considered that all pipe is steel pipe. It is known that undoubtedly some of the older pipe is wrought iron, as it has been in service for a great many years. However, the records are not clear enough to permit an accurate determination of how much of the pipe is wrought iron and

how much is steel. For this reason it has all been considered steel pipe.

All of the lines are considered as trenched and as having been laid under large gang conditions, due consideration being given to the variations in construction and hauling conditions in the several systems going to make up the property.

Compressing Station Equipment

Detailed inventories were made by engineers of Ford, Bacon & Davis, Inc., of each of the compressing stations owned by the Company. Unit prices applicable to the units of the equipment such as gas compressors, air compressors, motors, pumps, and generators were obtained from the various manufacturers. The installation costs, including haulage and installation of the compressing units, foundation work and pipe installation were developed from time studies and similar data peculiar to the construction of each station as obtained from the Company's field forces and from records in its possession.

A careful inspection was made of each engine in operation. This, together with a review of all the records of past operation of the engines and of the records pertaining to maintenance and general upkeep of the units, formed the basis for the derivation of a percentage which represents the observed deterioration of the equipment in place. This percentage was determined separately for the major units, auxiliary equipment, pipe and fittings, and miscellaneous equipment.

Measuring Station Equipment

The Company prepared an inventory of the measuring station equipment such as orifice meters and Pitot tubes through which it measures gas sold and purchased. Several of these larger installations were inspected in place

and a detailed inventory made. Based upon these field inventories and upon analysis of the book costs of a large number of installations, several unit prices were developed which covered the groups into which it was possible to place the various meters shown in the inventories. The prices for meters were obtained from the manufacturers of the equipment and labor prices are those current in the location where installed.

The inspection of the installations in place was the basis for determining a percentage which represents the accrued deterioration of the equipment.

Meters and Services

Inventories of meters and services were prepared from the books and records of the Company as of December 31, 1923. Due to practical limitations no field verification of these inventories was made. They were, however, carefully investigated and checked by comparison with the number of consumers.

The prices were obtained from the manufacturers of the different types of meters, and the cost of installation of the meters and services were developed from actual performances and analyses of a large number of recent installations made by the Company.

The percentage representing the deterioration existing was determined from the records of the Company as to meter replacements and maintenance.

Drilling and Cleaning Equipment

The inventory of well drilling and cleaning equipment was prepared from the Company's books and verified by field inspection of several of the strings of tools.

The unit prices were obtained from local dealers in West Virginia.

The deteriorated condition was determined from the in-

spection of the equipment in the field and from the nature and use to which the equipment is adapted.

Telephone and Telegraph Equipment

The inventory of telephone and telegraph equipment was prepared from the Company's records in considerable detail by lines. These various lines were checked up in every manner available principally through comparison with Engineering Department records, with records of employes in the Pressure Department and by actual field inspection and count of certain sections.

The prices of materials were obtained from manufacturers. The installation costs were determined from actual conditions and by using actual rates for labor prevailing in the territory in which the lines are located. From the inspection of the lines in place a percentage representing the accrued deterioration was determined.

General Equipment

This group includes shop equipment, office equipment, garage equipment, stable equipment, general tools and implements. The Company prepared inventories of each of these accounts which were in turn verified by field inspection. The unit prices were obtained from representative manufacturers for each item. From the field inspection a percentage was arrived at representing the observed deterioration of the equipment.

Direct Overheads

In building up unit prices for the installation of pipe lines, compressing stations, meters and, in fact, in the acquisition of all materials, an allowance was made to cover certain direct overheads which are part of the direct cost of the property in place.

Based upon labor in all installations, an allowance was made for liability insurance at 3 per cent, fire and use of tools from 3 ½ to 2 per cent, field supervision from ½ of 1 per cent in the case of monolithic structures to 4 per cent in the installation of compressing station equipment, interlocking at 3 per cent on pipe lines and steel tower structures, and contingencies from 2 per cent in the case of compressing stations and the smaller miscellaneous accounts to 4 and 5 per cent in the case of gathering, transmission and distribution lines.

On materials, these direct overheads are ½ of 1 per cent for purchasing, from ½ to 4 per cent for warehouse handling and from 2 to 5 per cent for contingencies.

A fee or contractor's profit of 10 per cent was allowed on the cost of all buildings and structures. The comparative cost estimates made in construction and only other costs as are not apparent in completed construction.

These percentage allowances were determined from a study of the records of the Company in actual installations and from similar experience of other companies.

General overheads

General overhead charges on construction are classified as engineering and superintendence, administration expense during construction, interest during construction, preconstruction costs, legal expenses during construction, taxes on and taxes during construction and the cost of financing. These overhead charges are assignable to the construction of a property and are an integral part of the cost as are materials and construction labor. The following tabulation shows the construction overheads which have been estimated to apply to the construction of this property:

	Alternative Plan	Preferred Plan	Alternative Plan	Preferred Plan
Engineering and Design services	[illegible]	[illegible]	[illegible]	[illegible]
Administration	[illegible]	[illegible]	[illegible]	[illegible]
Salaries	[illegible]	[illegible]	[illegible]	[illegible]
Construction Costs	[illegible]	[illegible]	[illegible]	[illegible]
Legal Expenses	[illegible]	[illegible]	[illegible]	[illegible]
Bonuses and Fees	[illegible]	[illegible]	[illegible]	[illegible]
Cost of Financing	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]

Engineering work during construction was to be carried by a department organized for this purpose at the conclusion of an established engineering organization. The cost for comparable service during other the work. Included in this expense are the cost of preparation of specifications, the review of bids for construction, checking contractors' estimates, geological work, general supervision of construction, laying out of the lines and mapping of the system. All of the above named cost a construction period of not less than two years during which entire period this expense should be incurred.

The construction of a property of the size, involving a large expenditure of money in a period of two years, would require the organization of a comprehensive administrative force. This organization would keep the services of the permanent operating force but during the construction period the greater part of the time should be devoted to the construction operations.

Interest during construction has been allowed at the current rate of 6 per cent per annum. The money should be acquired on an ordinary basis for a period approximating at least one-half of the construction period of two years. This rate of interest is taken as being the current rate of

this time at which such a large sum of money could be readily acquired.

Preconstruction costs are those necessary for the development or promotion of the enterprise and include service and expense of organizers and promoters, preliminary surveys and reports, charter expenses, legal and technical expenses pertaining to the advisability of the proposition and its creation as a corporate entity, all incurred prior to the starting of construction; the preparation of prospectuses and interest on these expenditures during a preconstruction period.

Legal expenses during construction include such items as fees and expenses of general counsel and local attorneys in the various localities in which the utility renders service. It includes office expenses of such attorneys, the cost of printing briefs, legal forms, testimony, reports, establishment of rates, witness fees, notarial fees, registration fees and miscellaneous expenses such as traveling.

Insurance and taxes during construction include fire insurance, public liability, damages in excess of liability insurance, and property taxes.

The cost of financing includes the expense involved in assembling the necessary capital for the enterprise and must not be confused with bond discount which has not been considered in the estimates. This expense is that which would be incurred in the floating of securities and as the interest rate provides for the current market return upon the investment there is no discount to be considered.

In the matter of deterioration, some part of the general overheads would undoubtedly deteriorate in proportion to the deterioration in the physical property. For instance, while a great deal of the engineering and supervision done during construction would not be required in making replacements to any considerable extent, there is a certain

part of it which must be repeated every time a material change is made in the layout of the plant from any cause whatsoever. It is therefore estimated that deterioration will occur in the general overheads allowed for engineering at the rates of ½ of 1 per cent in the production system, 2 per cent in the transmission system, 3 per cent in the distribution and 2 per cent in the general property.

As interest is an ever-continuing expense, it may be said to deteriorate as the property deteriorates. As the replacement of the property involves the expenditure of additional funds the interest charges are repeated, therefore all of the interest in each system is considered to deteriorate in proportion as the physical property deteriorates. No deterioration has been computed on the balance of the overhead construction costs, as it is considered that these costs once incurred would not again be necessary.

Working Capital

Working capital as shown in the estimates includes the amount shown on the Company's books for materials and supplies on hand at December 31, 1923, a reasonable allowance for cash in the bank, together with two months' average operating expenses based upon the year ended December 31, 1923. No other allowance has been made to cover stock of gas in lines and meters.

LEASEHOLDS AND NATURAL GAS RIGHTS.

Leaseholds and natural gas rights, proven and probable, have been included in the valuation at an amount computed as the value of the estimated remaining gas content of the proven and probable acreage.

Principle

The principle involved may be stated as follows:

> The measure of the value to the owner or lessee of gas in the ground is the difference between the prevailing market price at which such owner or lessee can purchase gas delivered to the field mains and the cost to such owner or lessee of producing and maintaining with his own wells an equivalent supply of gas at the same point of delivery.

In applying this principle it is necessary to arrive at:

> (a) The total cost to the owner or lessee of producing and maintaining with his own wells and equipment an equivalent supply of gas corresponding in delivery conditions to those under which the gas is purchased. This total cost must include operating expenses and depreciation, amortization of the value of the equipment used and a fair return upon the investment in such equipment.
>
> (b) The prevailing market price at which gas can be purchased as controlled by delivery conditions.
>
> (c) The estimated recoverable content of the proven and probably productive acreage.

Prevailing Market Prices

In arriving at a result from the application of the above principle, computations were based upon several different market prices for gas, as explained in the following sections. In general these prices are either actually being paid for gas delivered in the field contiguous to wells and lines of United Fuel Gas Company, Inc., under varying conditions, or are the result of opinions expressed as to what this gas would sell for delivered for industrial purposes. In the following list of market prices only those calling for the delivery of gas by United Fuel Gas Com-

pany, Inc., at Cedarville, W. Va., and the delivery of gas to United Fuel Gas Company, Inc., by Falling Rock Cannel Coal Company in West Virginia, concern the United Fuel Gas Company.

It might be well to call attention to the fact that the price at which the United Fuel Gas Company purchases gas is not based primarily upon the rate at which it sells gas. The Company has the choice of either purchasing part of its supply in the field at the best price it can make, or of obtaining such additional supply from its own wells which would necessitate additional investment. Its decision is based upon which source is the most economical in point of cost and conservation of its supply.

	Contract Prices
Gas purchased by Owens Bottle Works, Charleston, W. Va., delivered in field	$0.10
Gas purchased by International Nickel Co., Huntington, W. Va., delivered in field	0.17
Gas delivered to Industrial Corporations at Pittsburgh	0.30
Gas purchased by South Penn Oil Co., delivered in the field	0.08
Gas delivered to Hope Natural Gas Co., and Pittsburgh and West Virginia Gas Co., at Cedarville, W. Va., by United Fuel Gas Co.	0.2266
Gas delivered in the field by Falling Rock Cannel Coal Co., W. Va., to United Fuel Gas Company	0.085

Owens Bottle Works

This company purchases gas in the field for use in its industrial plants at a general market price of $0.10 per m. c. f. The cost to the United Fuel Gas Company of maintaining an equivalent supply with its own wells and equipment would be $0.05431 per m. c. f., leaving a net difference of $0.04569 as the value of gas in the ground.

The detail computation of the above cost is shown in the following section:

Operating Cost to Owner of Maintaining Supply at Similar Delivery Point

The Company's records have been taken as the base for the expenses involved on this account. These items are, for the year ended December 31, 1923:

(a) Operating Wells and Field Lines less gas used in own operation.
(b) Production Tools and Supplies.
(c) Repairs to Wells.
(d) Repairs to Lines.
(e) Well Royalties.

To the total of the above has been added the general administration and Company operating overheads in the same proportion as these general expenses are chargeable to the production system expenses in the Company accounts.

The calculations involved in the foregoing paragraphs are set forth in the following tabulation:

Operating Wells and Field Lines	$114,104
Production Tools and Supplies	9,651
Repairs to Wells	121,406
Repairs to Field Lines	24,147
Well Royalties	192,247
Total	$461,555
Less Gas Used in Own Operations	$ 5,295
Total Direct Expenses	$456,260
Proportion of General Expenses	195,006
Total Expenses	$651,266

Expenses per m. c. f. (obtained by dividing total expenses by production of 37,370,482 m. c. f.)	$0.01743
Return on deteriorated value of wells and well lines at 8%, as shown by valuation of Dec. 31, 1923, divided by production	0.01388
Total Cost	$0.03131

To the foregoing total of expenses must be added a depletion charge which will provide for the recovery of the depletable value of a well unit based upon the present investment in wells. The reason for this is that the contracts for the purchase of gas generally call for the delivery of present production and do not take into account the delivery of a large quantity of gas similar to that which it is estimated remains in the territory controlled by the United Fuel Gas Company, Inc.

Depletion Charge per M. c. f.

The total sum per well unit is arrived at by taking:

(a) The estimated cost of reproduction of the well exclusive of the value of the material content recoverable and including construction overheads as applied to Production System Property, excepting interest. The material content recovered has been estimated at 85%, recovered in 80 per cent condition.

(b) The estimated cost of reproduction of well lines exclusive of materials recovered. This item includes the cost of laying 1,490 feet of line, which is the average required per well, the cost of recovering this number of feet of line, and the cost of the pipe lost in use which is equivalent to 33 per cent of the total pipe.

(c) The estimated cost of abandoning a well. This cost was arrived at from a study of the records and a review of the requirements prescribed for the abandonment of a gas well.

The sum of these charges is the cost of the depletable value of a well unit.

The computations as outlined above are shown in the following tabulation:

Estimated Depletable Value of Well Unit

Wells:		
Productive (excluding material content recoverable)	$8,704	
Overheads (excluding interest)	1,175	$ 9,879
Lines:		
Labor Laying	390	
Labor Recovering	390	
Materials Totally Lost in Use	259	1,039
Cost of Abandoning Well		1,000
Total Depletable Value of a Well Unit		$11,918

As the present wells were found to be still capable of producing 46 per cent of the original volume, it is this percentage of the depletable value of a well unit which must be provided for in the recovering of the estimated remaining recoverable content of the well.

The remaining recoverable content per well is estimated to be 238,360 m. c. f. (see below), which quantity divided into the above amount to be recovered results in a depletion charge of $0.023 per m. c. f.

The total estimated recoverable content of the proven and probable acreage, taken from the report of Mr. Davis, to which reference has been made, is 663,108,431 m. c. f. This gas is estimated to be contained in 262,592 acres or an average content per acre of 2,525 m. c. f. It was found from a study of the Company's records that each well, at present productive, carries an equivalent of 94.4 acres, which makes the content per well to be 238,360 m. c. f.

In summary the operating cost to owner of maintaining supply at similar delivery point is as follows:

Operating Cost per m. c. f.	$0.03131
Depletion Rate per m. c. f.	0.02300
Total Cost to Lessee or Owner per m. c. f.	$0.05431

International Nickel Company

This company has recently made a contract for the delivery of gas to its industrial plant, in Huntington, W. Va., at the rate of $0.20 per m. c. f. The company making the delivery computes its expense for delivering the gas from the gathering point in the field to Huntington, W. Va., to be $0.03 per m. c. f. This distance is approximately 12 miles. The expense includes operating cost, amortization and return upon the transmission investment necessary and the rate per M. c. f. is based upon the quantity to be delivered daily as called for in the contract. Deducting this transmission expense would fix $0.17 as the price at which delivery is made at a gathering point in the field. The cost to the United Fuel Gas Company of maintaining an equivalent supply with its own wells and equipment would be $0.05431, leaving a net difference of $0.11569 per m. c. f. as the value of gas in the ground. The detail computation of the amount deducted as United Fuel Gas Company expense is the same as that shown under the above heading "Owens Bottle Works".

Delivery to Industrial Corporations at Pittsburgh

A rate of $0.30 per m. c. f. has been assumed as the price at which gas could be sold in the industrial market in Pittsburgh. The fixing of this rate is based upon intimate knowledge of the value of natural gas for industrial purposes. It also compares favorably with the cost of hot producer gas. Also creditable information has been

obtained regarding statements made by Mr. S. W. Meals, President and General Manager of the Carnegie Natural Gas Company, to the effect that the United States Steel Corporation and other large steel corporations would readily pay at least this price for a large quantity of natural gas delivered uniformly throughout the year.

Cost of Delivering Gas for Industrial Use in Pittsburgh, Pa.

The cost to the United Fuel Gas Company of the gas sold at wholesale delivery points on its system is $0.17552 per m. c. f. (See following tabulation). To this cost must be added the expense of operation, amortization and return upon the investment in the plant necessary to transmit the gas from the best available point (Cedarville) in the Company's present system, to Pittsburgh. The total quantity which the Company could be expected to deliver at a uniform rate throughout the year would approximate 46,000,000 m. c. f., or from 125 million to 150 million per day. To transmit this gas from Cedarville to Pittsburgh would require 2-20 in. lines each about 130 miles long and two compressing stations each of 9,000 h. p. capacity. The cost of operating this system, based upon United Fuel Gas Company actual costs and including allowances for amortization of and return upon the investment at 8 per cent, would be $0.0526 per m. c. f. This amount added to the total cost at Cedarville results in a total cost at Pittsburgh of $0.22812 per m. c. f., leaving a difference of $0.07188 as the value per m. c. f. of gas in the ground. The following tabulations give details of the above computations:

Estimate of Transmission Property which would be required to transmit approximately 46,000,000 M. c. f. of Natural Gas per year from Cedarville, W. Va., to Pittsburgh, Pa.

2 - 20 in. Lines at 130 miles each totals 260 miles. 260 miles of 20 in. pipe line, including rights of way	$ 6,904,894
2 - 9,000 h. p. Compressing Stations	1,629,000
Total Physical Property	$ 8,533,894
Construction Overheads	2,218,812
Total Estimated Cost of Property	$10,752,706

Cost of Delivering Gas for Industrial Use in Pittsburgh, Pa.

	Per M. c. f.
Return on above total at 8%, $860,216 Divided by Sales of 46,000,000 M. c. f.	$0.01870
Amortization of approximately $10,000,000 of above value over 663,108,431 M. c. f. of gas	0.01510
Operating Cost (based upon United Fuel Gas Co. experience)	0.01270
Annual Depreciation Charge at 3%, $281,410 Divided by sales of 46,000,000 M. c. f.	0.00610
Total Cost Cedarville to Pittsburgh	$0.05260
United Fuel Gas Co. cost of delivery at Cedarville (see below)	0.17552
Total Cost Gas Delivered at Pittsburgh	$0.22812
Value at Pittsburgh for industrial use	0.30000
Net Difference as value of gas in the ground	$0.07188

Total Cost to United Fuel Gas Company of Delivering Gas at Cedarville, W. Va., in Wholesale Quantities, excluding Value and Amortization of Leaseholds and Natural Gas Rights.

Expenses:		
Production	$0.05005	
Transmission	0.01270	$0.06275
Depreciation:		
Production (No depletable property included)	$0.00425	
Transmission	0.01246	
General	0.00043	0.01714
Return on Investment (Estimated Cost of Reproduction New Less Observed Deterioration):		
Production (excluding Leaseholds and Natural Gas Rights)	$0.01722	
Transmission	0.02294	
General	0.00093	
Working Capital	0.00145	0.04254
Amortization of Physical Property (Deteriorated Value):		
Production (No depletable property included)	$0.00396	
Transmission	0.01518	
General Plant	0.00032	0.01946
Depletion:		0.03363
Total Cost of Gas Delivered at Cedarville, exclusive of Leaseholds and Natural Gas Rights		$0.17552(A)

Note:—(A) Source of information on which this total cost is based is described in the following section.

Cost of Delivering Gas at Cedarville

The amounts included in the foregoing statements of cost for expenses are taken from the financial records of the Company for year 1923 and include the operating expenses, the cost of gas purchased and proportion of general administration expenses and taxes chargeable to the production and transmission systems.

The charges for depreciation are determined by applying varying percentage rates to each class of property, using as a basis the estimated cost of reproduction new of the property as of December 31, 1923. In no case is depreciation computed upon property which has been considered depletable.

The return on investment is computed at 8 per cent upon the estimated cost of reproduction new less observed deterioration at December 31, 1923. Each of the units under headings "Expenses", "Depreciation" and "Return on Investment" are obtained by dividing the total amounts by the quantity of gas handled during the year 1923.

Amortization is computed upon the value of the physical property which it will not be possible to salvage at the end of its useful service life. Generally, the amortizable value has been arrived at by deducting from the estimated cost to reproduce less observed deterioration, 10 per cent of the deteriorated value of the physical property only. The unit is arrived at by dividing the total sum to be amortized by the estimated recoverable gas in the ground.

Depletion Charge per M. c. f.

The depletion charge shown in the above tabulation is determined in much the same manner as is described under the heading Owens Bottle Works. This charge must be sufficient to provide for the recovery of the value of the property required to produce and deliver in the field the

quantity of gas which it is estimated remains in the ground. This determination involves the total value of the present equipment which will be used for this purpose and the amount of additional equipment which it will be necessary to install in order to produce the full amount of gas. The depletable value per well unit is arrived at by taking:

(a) The estimated cost of reproduction of the wells exclusive of the value of the material content recoverable and including construction overheads as applied to production system property, excepting interest.

(b) The estimated cost of reproduction of well lines necessary to the service of each well, exclusive of materials, recovered.

(c) The estimated cost of abandoning wells at exhaustion.

This computation uses the same depletable value of a well unit of $11,918, as detailed in the section headed "Owen Bottle Works".

With reference to the present wells, inasmuch as they were found to be still capable of producing 46 per cent of their original volume, the total depletable value per well is taken as that percentage of the above total of $11,918.

The estimate of the additional number of well units in which the Company will have to invest and deplete in order to recover the remaining gas is taken as the number of additional locations indicated by dividing the estimated remaining recoverable content per well (238,360 m. c. f.) into the total estimated recoverable content in Mr. Davis' report (663,108,431 m. c. f.). This calculation results in a total number of locations of 2,782, of which 789.7 are occupied by present active wells, leaving a total yet to drill of 1,992.3.

It is to this number of locations that the estimated depletable value of a well unit is applied in arriving at the total depletable value of the additional investment necessary to produce the full quantity of gas which it is estimated remains.

Tabulated, the above results in the following:

Present wells—789.7 @ 46 per cent of $11,918	$ 4,329,356.52
Additional wells—1,992.3 @ $11,918	23,744,231.40
Total Depletable Value of Wells	$28,073,587.92
This total divided by the remaining content per well results in a depletion unit of	$0.04234 per M.c.f.

The rate of $0.03363, used in the tabulation of total cost, is arrived at by determining the amount of annual depletion accrued by the quantity of gas produced and dividing this total by the total sales of the Company.

South Penn Oil Company

This company, which is in no sense a public utility company, purchases gas delivered to its mains in the field at a rate of $0.08, this rate being the general market price which the South Penn Oil Company is at present quoting for the purchase of gas. Advice has been received that this company has made recent contracts at a price of $0.12 per m. c. f. for gas delivered in the field and from which the gasoline has been extracted. This goes to show that the price of $0.08, while being the quoted market price, is not the limit at which the Company will make contracts. The cost to the United Fuel Gas Company of the delivery of a corresponding amount under similar conditions would be $0.05431 per m. c. f.,

leaving a net difference of $0.02569 per m. c. f., as the value of gas in the ground.

The detail computation of the above item of cost is shown in the preceding section under the heading "Owens Bottle Works".

Delivery to Purchaser at Cedarville

The rate of $0.2266 which is used in this computation as the sales price at Cedarville is the average rate which was received for gas delivered by the United Fuel Gas Company at Cedarville to the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company during the period August, 1923, to April, 1924. The cost to the Company of delivering this gas at Cedarville is computed to be $0.17552, which leaves a difference of $0.05108 as the value of the gas in the ground. The detail computation of cost at Cedarville is shown in the foregoing section referring to cost of delivering gas in Pittsburgh.

Falling Rock Cannel Coal Company

The United Fuel Gas Company has entered into a contract with the Falling Rock Cannel Coal Company for the purchase from it of a large quantity of natural gas, from which the gasoline has been removed at $0.085 per m. c. f. delivered at a central point in the field. In fixing upon this rate as one of the several market prices, all of the various gas purchase contracts entered into recently by the United Fuel Gas Company with independent producers, were scrutinized. In many cases it was found that the price was affected by the position of the producer in the field and his relation to a general market. In other cases it was found that special prices were granted for concessions other than merely the delivery of gas. Eliminating all such contracts from consideration it was

found that the one with the Falling Rock Cannel Coal Company, of Kanawha County, W. Va., was the best example of the present market price at which the United Fuel Gas Company could purchase gas in reasonably large quantities in the field served by its system. The Falling Rock Cannel Coal Company at the time it made the contract was in a position to command the price at which it was willing to sell gas, inasmuch as it had a competitive market in which to deal. In other words, this contract was one made between a willing seller and a willing buyer and was not influenced by restrictions as to market or supply which affected the other contracts.

The cost to the United Fuel Gas Company of maintaining a similar supply with its own wells and equipment is $0.05431 per m. c. f., leaving a net difference of $0.03069 per m. c. f. as the value of gas in the ground, exclusive of any value of gasoline content.

The detail computation of the United Fuel Gas Company cost is similar to that shown under foregoing heading "Owens Bottle Works".

Conclusion

Summarized, the foregoing results are as follows:

	Contract Rate	Value per M.c.f. Gas in Ground
Purchase in field by Owens Bottle Works	$0.10	$0.04569
Purchase in field by International Nickel Co.	0.17	0.11569
Delivery at Pittsburgh	0.30	0.07188
Purchase in field by South Penn Oil Co.	0.08	0.02569
Delivery at Cedarville by United Fuel Gas Co.	0.2266	0.05108
Purchase of "Dry" Gas in field by United Fuel Gas Co.	0.085	0.03069

Based upon a review of these results and considering the varying circumstances surrounding the making of each contract, as well as the fact that most of the prices are for gas from which the gasoline has been extracted, it has been assumed that a fair and reasonable value of gas in the ground is not less than $0.05 per m. c. f. For the purpose of the computation of value of Leaseholds and Natural Gas Rights, exclusive of any value of gasoline content, in this report, the value of $0.05 per m. c. f. has been used.

Estimated Recoverable Content of the Proven and Probably Productive Acreage

The total estimated recoverable content of the proven and probable acreage as taken from the report of Mr. Davis, is 663,108,431 m. c. f. It is to this quantity of recoverable gas that the value of $0.05 per m. c. f. is applied, resulting in a total value of proven and probable acreage of $33,155,421.55.

Valuation of Unproven Acreage

The total acreage in this classification is taken from Mr. Davis' report. The value at which it has been included herein is the average bonus or investment charge per acre incurred by the Company in the year 1923 in the acquisition of the unproven acreage which it acquired during that year. This is taken as the measure of the value of this acreage as it represents bona fide transactions in the acquisition of such leaseholds.

The number of acres in this class is 552,319 and the cost of acquisition per acre in 1923 was found to be $5.9635, making a total value of unoperated acreage of $3,293,754.

SUMMARY OF VALUATION

By States and Systems

Estimated Cost of Reproduction as of December 31, 1923

Classification	Total		West Virginia		Kentucky		Ohio	
	New	Less Deterioration	New	Less Deterioration	New	Less Deterioration	New	Less Deterioration
Production System	$49,023,964	$44,279,576	$44,136,361	$39,635,170	$ 4,887,603	$ 4,644,406	$	$
Transmission System	13,467,823	11,154,326	11,413,264	9,446,663	1,690,852	1,404,257	363,707	303,406
Distribution System	3,269,363	2,694,806	2,325,319	1,915,322	509,545	421,012	434,499	358,472
General Property	679,140	594,742	644,021	566,293	29,550	24,076	5,569	4,373
Total	$66,440,290	$58,723,450	$58,518,965	$51,563,448	$ 7,117,550	$ 6,493,751	$ 803,775	$ 666,251
General Overhead Charges	7,063,311	6,357,046	6,149,797	5,517,663	722,224	662,606	191,290	176,777
Total	$73,503,601	$65,080,496	$64,668,762	$57,081,111	$ 7,839,774	$ 7,156,357	$ 995,065	$ 843,028
Working Capital	990,000	990,000						
Total	$74,493,601	$66,070,496						

SUMMARY OF VALUATION

By States and Accounts

Estimated Cost of Reproduction as of December 31, 1923

Acct. No.	Description	Total New	Total Less Deterioration	West Virginia New	West Virginia Less Deterioration	Kentucky New	Kentucky Less Deterioration	Ohio New	Ohio Less Deterioration
	Production System Properties								
204	Land								
205	Leaseholds								
207	Natural Gas Rights	$36,449,176	$36,449,176	$32,326,537	$32,326,537	$ 4,122,639	$ 4,122,639	$---------	$---------
206	Rights of Way	111,454	111,454	101,980	101,980	9,474	9,474	---------	---------
208	Gas Well Structures	59,360	44,520	59,360	44,520	---------	---------	---------	---------
209	Field Measuring Station Structures	4,919	4,379	4,702	4,196	217	183	---------	---------
210	Other Production System Structures	111,759	90,931	108,113	88,067	3,646	2,864	---------	---------
211	Gas Well Construction	5,869,386	2,699,917	5,631,849	2,590,650	237,537	109,267	---------	---------
212	Gas Well Equipment	2,156,587	1,470,733	2,061,807	1,406,045	94,780	64,688	---------	---------
213	Field Line Construction	1,244,603	995,682	1,114,395	891,516	130,208	104,166	---------	---------
214	Field Line Equipment	2,658,379	2,126,703	2,383,189	1,906,551	275,190	220,152	---------	---------
215	Field Measuring Station Equipment	40,637	34,541	39,232	33,347	1,405	1,194	---------	---------
216	Drilling and Cleaning Equipment	204,030	142,822	195,908	137,136	8,122	5,686	---------	---------
217	Other Production System Equipment	33,035	28,079	31,090	26,426	1,945	1,653	---------	---------
	Total Prod. System Properties	$48,943,325	$44,198,937	$44,058,162	$39,556,971	$ 4,885,163	$ 4,641,966	$---------	$---------
	Incomplete Construction	80,639	80,639	78,199	78,199	2,440	2,440	---------	---------
		$49,023,964	$44,279,576	$44,136,361	$39,635,170	$ 4,887,603	$ 4,644,406	$---------	$---------
	General Overhead Charges	2,700,792	2,297,519	2,536,562	2,153,961	164,230	143,558	---------	---------
	Total	$51,724,756	$46,577,095	$46,672,923	$41,789,131	$ 5,051,833	$ 4,787,964	$---------	$---------
	Transmission System Properties								
218	Land	$ 3,533	$ 3,533	$ 3,383	$ 3,383	$ 150	$ 150	$---------	$---------
219	Leaseholds	---------	---------	---------	---------	---------	---------	---------	---------
220	Rights of Way	159,713	159,713	120,583	120,583	30,505	30,505	8,625	8,625
221	Compressing Station Structures	271,494	230,182	251,684	214,019	19,810	16,163	---------	---------
222	Transmission System Meas. Sta. Str.	3,176	2,749	2,160	1,928	720	584	296	237
223	Other Trans. System Structures	212,611	187,895	198,087	175,004	12,096	10,895	2,428	1,996
224	Compressing Station Equipment	3,241,759	2,622,010	3,125,628	2,530,772	116,131	91,238	---------	---------
225	Trans. System Meas. Sta. Equip.	23,081	19,619	19,427	16,513	2,449	2,082	1,205	1,024
226	Transmission System Equipment	9,520,856	7,902,310	7,670,452	6,366,475	1,502,587	1,247,147	347,817	288,688
227	Other Transmission System Equip.	35,235	29,950	25,823	21,949	6,076	5,165	3,336	2,836
	Total Trans. System Properties	$13,471,458	$11,157,961	$11,417,227	$ 9,450,626	$ 1,690,524	$ 1,403,929	$ 363,707	$ 303,406
	Incomplete Construction	3,635	3,635	3,963	3,963	328	328	---------	---------
		$13,467,823	$11,154,326	$11,413,264	$ 9,446,663	$ 1,690,852	$ 1,404,257	$ 363,707	$ 303,406
	General Overhead Charges	3,501,388	3,270,038	2,967,212	2,770,552	439,612	410,952	94,564	88,534
	Total	$16,969,211	$14,424,364	$14,380,476	$12,217,215	$ 2,130,464	$ 1,815,209	$ 458,271	$ 391,940

SUMMARY OF VALUATION

By States and Accounts

Estimated Cost of Reproduction as of December 31, 1923

Acct. No.	Description	Total New	Total Less Deterioration	West Virginia New	West Virginia Less Deterioration	Kentucky New	Kentucky Less Deterioration	Ohio New	Ohio Less Deterioration
	Distribution System Property								
228	Land	$ 45,161	$ 45,161	$ 38,992	$ 38,992	$ 3,186	$ 3,186	$ 2,983	$ 2,983
229	Leaseholds	---	---	---	---	---	---	---	---
230	Rights of Way	4,891	4,891	3,595	3,595	538	538	758	758
231	District Regulator Structures	34,962	28,961	23,326	19,022	6,294	5,482	5,342	4,457
232	Other Distribution Structures	39,634	31,146	29,903	23,424	6,237	4,978	3,494	2,744
233	Gas Receivers and District Regulators	69,499	59,074	49,882	42,400	11,037	9,381	8,580	7,293
234	Distribution Line Equipment	1,768,976	1,415,181	1,295,803	1,036,643	250,771	200,617	222,402	177,921
235	Service Line Equipment	547,023	464,969	385,410	327,599	90,530	76,950	71,083	60,420
236	Meters	532,492	452,618	354,369	301,213	96,795	82,276	81,328	69,129
237	Meter Installations	209,853	178,286	133,325	113,237	40,907	34,771	35,621	30,278
238	House Regulators	---	---	---	---	---	---	---	---
239	Other Distribution System Equipment	15,691	13,338	10,113	8,596	2,781	2,364	2,797	2,378
	Total Distribution System Equip.	$ 3,268,182	$ 2,693,625	$ 2,324,718	$ 1,914,721	$ 509,076	$ 420,543	$ 434,388	$ 358,361
	Incomplete Construction	1,181	1,181	601	601	469	469	111	111
		$ 3,269,363	$ 2,694,806	$ 2,325,319	$ 1,915,322	$ 509,545	$ 421,012	$ 434,499	$ 358,472
	General Overhead Charges	717,905	654,703	510,400	465,300	112,004	102,265	95,501	87,138
	Total	$ 3,987,268	$ 3,349,509	$ 2,835,719	$ 2,380,622	$ 621,549	$ 523,277	$ 530,000	$ 445,610
	General Property								
244	General Office Land	$ 174,500	$ 174,500	$ 172,350	$ 172,350	$ 2,150	$ 2,150	$---	$---
245	Other General Land	31,653	31,653	29,693	29,693	1,960	1,960	---	---
246	Leaseholds	---	---	---	---	---	---	---	---
247	General Office Structures	144,587	128,725	144,587	128,725	---	---	---	---
248	Other General Structures	---	---	---	---	---	---	---	---
249	General Office Equipment	59,429	45,504	53,938	41,371	2,420	1,805	3,071	2,328
250	General Store Equipment	---	---	---	---	---	---	---	---
251	General Shop Equipment	18,055	14,979	14,929	12,365	1,772	1,462	1,354	1,152
252	General Stable Equipment	10,799	9,946	10,799	9,946	---	---	---	---
253	General Garage Equipment	28,608	22,537	27,099	21,421	710	497	799	619
254	General Laboratory Equipment	---	---	---	---	---	---	---	---
255	General Tel. and Tel. Equipment	204,214	161,151	184,153	145,302	20,061	15,849	---	---
256	General Tools and Implements	7,295	5,747	6,473	5,120	477	353	345	274
257	Other General Equipment	---	---	---	---	---	---	---	---
202	Patent Rights and Licenses	---	---	---	---	---	---	---	---
	Total General Property	$ 679,140	$ 594,742	$ 644,021	$ 566,293	$ 29,550	$ 24,076	$ 5,569	$ 4,373
	General Overhead Charges	143,226	134,786	135,623	127,850	6,378	5,831	1,225	1,105
	Total	$ 822,366	$ 729,528	$ 779,644	$ 694,143	$ 35,928	$ 29,907	$ 6,794	$ 5,478

SUMMARY BY DISTRIBUTION PLANTS

Distribution Plant	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration	Incomplete Construction	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration
West Virginia:			$	$	$
Amma	$ 957	$ 787			
Bannister	1,244	1,033			
Barboursville	25,821	21,506			
Big Creek	2,784	2,310			
Big Sandy	945	786			
Blue Creek	3,554	2,953			
Buff Lick	2,429	2,053			
Cedarville	730	621			
Ceredo	21,129	17,202			
Charleston	870,242	715,199			
Chelyan	16,338	13,510			
Cherry Tree Bottom	5,489	4,556			
Clendenin	30,240	24,885			
Coalburg	14,527	11,993			
Culloden	3,615	3,007			
East Bank	9,399	7,727			
East Lynn	5,161	4,271			
Elkview	3,384	2,798			
Fort Gay	9,475	7,849			
Gandeeville	2,392	1,940			
Gay	2,676	2,192			
Greyeagle	1,532	1,245			
Hunt	4,795	3,899			
Huntington	780,414	641,279			
Hurricane	16,763	13,831			
Jordan Creek	1,193	989			
Kanawha City	33,026	26,909			
Kenova	61,907	50,982			
Kermit	21,203	18,953			
King	870	727			
Kygar	893	740			
Lock Seven	1,676	1,373			
Logan	39,944	32,973			
McClanahan	2,448	1,991			
Milliken	542	459			

SUMMARY BY DISTRIBUTION PLANTS

Distribution Plant	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration	Incomplete Construction	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration
West Virginia (Concluded):					
Newton	$ 578	$ 490	$	$	$
Nitro	20,854	17,332			
Ona	1,914	1,609			
Poca	6,639	5,513			
Quick	922	765			
Ravenswood	26,775	22,110			
Reedy	10,070	8,309			
Rich Creek	335	284			
Ripley	21,445	17,737			
Sandyville	3,630	3,011			
Silverton	3,259	2,668			
Sissonville	3,223	2,657			
So. Charleston	64,679	52,992			
Spencer	44,392	36,442			
Stoffle	663	565			
Three Mile	1,037	850			
Walgrove	825	683			
Walton	5,969	5,137			
Williamson	102,931	85,198			
Miscellaneous	1,246	1,246			
Total in West Virginia	$ 2,324,718 (A)	$ 1,914,721 (A)	$ 601	$ 2,325,319	$ 1,915,322
Kentucky					
Ashland	$ 308,255	$ 253,983	$	$	$
Buchanan	989	832			
Burnaugh	1,101	903			
Catlettsburg	85,231	70,644			
Chinnville	8,971	7,417			
Greenup	19,291	15,812			
Himlerville	8,609	7,174			
Inez	9,297	7,865			
Louisa	33,489	27,738			

SUMMARY BY DISTRIBUTION PLANTS

Distribution Plant	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration	Incomplete Construction	Estimated Cost of Reproduction As of Dec. 31, 1923 New	Less Deterioration
Kentucky (Concluded):					
Russell	$ 27,122	$ 22,476	$---------	$---------	$---------
Warfield	4,164	3,486	---------	---------	---------
Wolf Creek	1,994	1,650	---------	---------	---------
Miscellaneous	25	25	---------	---------	---------
Total in Kentucky	$ 509,076 (A)	$ 420,543 (A)	$ 469	$ 509,545	$ 421,012
Ohio					
Bradrick	$ 5,822	$ 4,768	$---------	$---------	$---------
Chesapeake	17,400	14,344	---------	---------	---------
Coal Grove	14,022	11,602	---------	---------	---------
Corryville	6,937	5,667	---------	---------	---------
Ironton	236,818	194,852	---------	---------	---------
New Boston	81,424	67,679	---------	---------	---------
Portsmouth	43,397	35,725	---------	---------	---------
Proctorville	15,117	12,470	---------	---------	---------
Wheelersburg	12,643	10,445	---------	---------	---------
Miscellaneous	51	51	---------	---------	---------
Total in Ohio	$ 434,389 (A)	$ 358,361 (A)	$ 111	$ 434,500	$ 358,472

NOTE:—(A) Includes Right of Way.

Estimated Cost of Reproduction NEW

Summary by Distribution Plants and Accounts

Acct. No.:	228	230	231	232	233	234	235	236
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Mete
West Virginia:								
Amma	$--------	$--------	$ 109	$--------	$ 87	$ 442	$ 203	$
Bannister	--------	--------	228	--------	153	278	250	
Barboursville	131	--------	843	--------	1,072	10,488	5,244	
Big Creek	51	--------	196	--------	253	1,102	203	
Big Sandy	13	--------	82	--------	38	501	16	
Blue Creek	--------	--------	--------	--------	355	1,361	876	
Buff Lick	--------	--------	131	--------	93	272	--------	
Cedarville	--------	--------	--------	--------	169	--------	--------	
Ceredo	1	--------	846	--------	262	10,978	4,579	
Charleston	906	--------	5,845	12,483	14,693	469,325	126,685	17
Chelyan	--------	--------	147	--------	650	7,659	3,374	
Cherry Tree Bottom	--------	--------	113	--------	38	2,125	1,276	
Clendenin	--------	--------	455	--------	1,193	16,211	4,232	
Coalburg	--------	--------	146	435	1,132	6,991	3,459	
Culloden	--------	--------	--------	--------	238	1,284	1,046	
Eastbank	--------	--------	311	--------	317	5,184	2,426	
East Lynn	--------	--------	370	--------	278	2,133	1,018	
Elkview	--------	--------	114	--------	141	1,435	470	
Fort Gay	101	--------	258	--------	374	4,137	1,969	
Gandeeville	--------	--------	131	--------	186	1,010	467	
Gay	--------	--------	--------	--------	245	1,674	297	
Greyeagle	--------	--------	--------	--------	--------	1,143	175	
Hunt	--------	--------	--------	--------	131	3,648	501	
Huntington	26,035	--------	7,136	9,563	10,790	503,040	135,569	6:
Hurricane	--------	--------	192	799	666	6,919	3,495	
Jordan Creek	--------	--------	--------	--------	299	511	141	
Kanawha City	--------	--------	114	--------	1,041	23,453	3,396	
Kenova	400	--------	422	296	1,391	32,946	12,774	
Kermit	8,375	--------	109	--------	346	6,442	2,718	
King	--------	--------	98	--------	186	439	--------	

Estimated Cost of Reproduction NEW

Summary by Distribution Plants and Accounts

230 Rights of Way	231 Dist. Reg. Structures	232 Other Dist. Structures	233 Gas Receivers and Dist. Regulators	234 Dist. Line Equipment	235 Service Line Equipment	236 Meters	237 Meter Installations	239 Other Dist. System Equipment	Total NEW
$--------	$ 109	$--------	$ 87	$ 442	$ 203	$ 91	$ 25	$--------	$ 957
--------	228	--------	153	278	250	200	127	8	1,244
--------	843	--------	1,072	10,488	5,244	5,260	2,674	109	25,821
--------	196	--------	253	1,102	203	580	356	43	2,784
--------	82	--------	38	501	16	180	115	--------	945
--------	--------	--------	355	1,361	876	609	353	--------	3,554
--------	131	--------	93	272	--------	1,716	166	51	2,429
--------	--------	--------	169	--------	--------	293	255	13	730
--------	846	--------	262	10,978	4,579	2,716	1,674	64	21,129
--------	5,845	12,483	14,693	469,325	126,685	179,160	57,705	3,440	870,242
--------	147	--------	650	7,659	3,374	2,745	1,682	81	16,338
--------	113	--------	38	2,125	1,276	1,169	725	43	5,489
--------	455	--------	1,193	16,211	4,232	5,463	2,570	116	30,240
--------	146	435	1,132	6,991	3,459	1,443	871	50	14,527
--------	--------	--------	238	1,284	1,046	613	382	52	3,615
--------	311	--------	317	5,184	2,426	701	433	27	9,399
--------	370	--------	278	2,133	1,018	855	429	78	5,161
--------	114	--------	141	1,435	470	747	472	5	3,384
--------	258	--------	374	4,137	1,969	1,567	960	109	9,475
--------	131	--------	186	1,010	467	290	264	44	2,392
--------	--------	--------	245	1,674	297	262	198	--------	2,676
--------	--------	--------	--------	1,143	175	131	83	--------	1,532
--------	--------	--------	131	3,648	501	318	204	--------	4,795
--------	7,136	9,563	10,790	503,040	135,569	63,334	22,876	2,071	780,414
--------	192	799	666	6,919	3,495	2,874	1,685	133	16,763
--------	--------	--------	299	511	141	138	89	15	1,193
--------	114	--------	1,041	23,453	3,396	3,441	1,384	197	33,026
--------	422	296	1,391	32,946	12,774	9,583	3,579	516	61,907
--------	109	--------	346	6,442	2,718	2,233	842	138	21,203
--------	98	--------	186	439	--------	90	57	--------	870

Estimated Cost of Reproduction NEW

Summary by Distribution Plants and Accounts

(Continued)

Acct. No.:	228	230	231	232	233	234	235	236
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters
West Virginia:								
Kyger	$	$	$	$	$ 131	$ 345	$ 125	$ 1
Lock Seven						1,047	282	2
Logan	16		478	174	186	19,527	10,086	6,3
McClanahan			114		169	1,755	172	1
Milliken					328	16		1
Newton					169	25		2
Nitro						6,099	713	9,2
Ona			49		369	474	501	3
Poca					253	2,560	1,718	1,2
Quick				109	186	382		1
Ravenswood	60		389		679	12,338	6,328	4,9
Reedy			299		413	4,493	2,125	1,3
Rich Creek					153	18		1
Ripley	81		294		461	9,573	4,648	3,3
Sandyville			200		327	1,329	779	5
Silverton	11		174		131	1,801	435	3
Sissonville			130		169	1,656	531	4
South Charleston			724		4,001	39,439	8,418	8,4
Spencer	324		533		1,781	25,843	7,279	5,9
Stoffel			71		224	19		2
Three Mile					86	632	172	
Walgrove			114		76	284	250	
Walton	1,141		98		320	1,976	965	7
Williamson	100		1,263	6,044	2,453	41,039	23,024	20,7
Miscellaneous	1,246							
Total in West Virginia	$ 38,992	$ 3,595	$ 23,326	$ 29,903	$ 49,882	$1,295,803	$ 385,410	$ 354,3

Estimated Cost of Reproduction NEW
Summary by Distribution Plants and Accounts
(Continued)

230 Rights of Way	231 Dist. Reg. Structures	232 Other Dist. Structures	233 Gas Receivers and Dist. Regulators	234 Dist. Line Equipment	235 Service Line Equipment	236 Meters	237 Meter Installations	239 Other Dist. System Equipment	Total NEW
$--------	$--------	$--------	$ 131	$ 345	$ 125	$ 122	$ 113	$ 57	$ 893
--------	--------	--------	--------	1,047	282	218	129	--------	1,676
--------	478	174	186	19,527	10,086	6,369	2,825	283	39,944
--------	114	--------	169	1,755	172	142	89	7	2,448
--------	--------	--------	328	16	--------	117	76	5	542
--------	--------	--------	169	25	--------	244	140	--------	578
--------	--------	--------	--------	6,099	713	9,242	4,563	237	20,854
--------	49	--------	369	474	501	323	198	--------	1,914
--------	--------	--------	253	2,560	1,718	1,285	767	56	6,639
--------	--------	109	186	382	--------	150	95	--------	922
--------	389	--------	679	12,338	6,328	4,904	1,867	210	26,775
--------	299	--------	413	4,493	2,125	1,391	1,215	134	10,070
--------	--------	--------	153	18	--------	100	64	--------	335
--------	294	--------	461	9,573	4,648	3,363	2,851	174	21,445
--------	200	--------	327	1,329	779	501	401	93	3,630
--------	174	--------	131	1,801	435	350	269	88	3,259
--------	130	--------	169	1,656	531	474	250	13	3,223
--------	724	--------	4,001	39,439	8,418	8,463	3,294	340	64,679
--------	533	--------	1,781	25,843	7,279	5,958	2,326	348	44,392
--------	71	--------	224	19	--------	210	134	5	663
--------	--------	--------	86	632	172	90	57	--------	1,037
--------	114	--------	76	284	250	59	38	4	825
--------	98	--------	320	1,976	965	733	633	103	5,969
--------	1,263	6,044	2,453	41,039	23,024	20,759	7,696	553	102,931
--------	--------	--------	--------	--------	--------	--------	--------	--------	1,246
$ 3,595	$ 23,326	$ 29,903	$ 49,882	$1,295,803	$ 385,410	$ 354,369	$ 133,325	$ 10,113	$2,324,718 (A)

Estimated Cost of Reproduction NEW

Summary by Distribution Plants and Accounts

(Concluded)

Acct. No.:	228	230	231	232	233	234	235	23
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Met
Kentucky:								
Ashland	$ 1,576	$	$ 2,259	$ 835	$ 5,037	$ 165,572	$ 45,985	$
Buchanan					184	196	313	
Burnaugh					131	634	219	
Catlettsburg	80		2,186	4,085	1,763	34,262	19,298	
Chinnville	30		272		439	4,100	1,673	
Greenup	75		181	266	641	12,105	3,165	
Himlerville			249		346	3,124	2,900	
Inez	1,050		181		307	3,725	1,656	
Louisa			557	1,051	1,276	12,771	7,028	
Russell	150		211		519	11,791	7,146	
Warfield	200		101		253	1,602	710	
Wolf Creek			97		141	889	437	
Miscellaneous	25							
Total in Kentucky	$ 3,186	$ 538	$ 6,294	$ 6,237	$ 11,037	$ 250,771	$ 90,530	$
Ohio:								
Bradrick	$ 25	$	$ 109	$	$ 93	$ 3,563	$ 954	$
Chesapeake	25		163		214	8,852	3,959	
Coal Grove			428		397	6,727	3,193	
Corryville	25		109		186	4,529	798	
Ironton	293		1,514	379	3,293	130,041	36,514	
New Boston	1,865		1,289	3,115	2,219	31,029	17,435	
Portsmouth	569		989		1,421	24,581	2,128	
Proctorville	100		261		160	7,628	3,317	
Wheelersburg	30		481		597	5,452	2,785	
Miscellaneous	51							
Total in Ohio	$ 2,983	$ 758	$ 5,343	$ 3,494	$ 8,580	$ 222,402	$ 71,083	$

Note:—(A) Includes Rights of Way.

Estimated Cost of Reproduction NEW

Summary by Distribution Plants and Accounts

(Concluded)

230 Rights of Way	231 Dist. Reg. Structures	232 Other Dist. Structures	233 Gas Receivers and Dist. Regulators	234 Dist. Line Equipment	235 Service Line Equipment	236 Meters	237 Meter Installations	239 Other Dist. System Equipment	Total NEW
$--------	$ 2,259	$ 835	$ 5,037	$ 165,572	$ 45,985	$ 64,472	$ 21,427	$ 1,092	$ 308,255
--------	--------	--------	184	196	313	182	114	---------	989
--------	--------	--------	131	634	219	70	45	2	1,101
--------	2,186	4,085	1,763	34,262	19,298	14,575	8,454	528	85,231
--------	272	--------	439	4,100	1,673	1,392	860	205	8,971
--------	181	266	641	12,105	3,165	1,707	969	182	19,291
--------	249	--------	346	3,124	2,900	1,189	770	31	8,609
--------	181	--------	307	3,725	1,656	1,175	1,067	136	9,297
--------	557	1,051	1,276	12,771	7,028	6,729	3,764	313	33,489
--------	211	--------	519	11,791	7,146	4,435	2,756	114	27,122
--------	101	--------	253	1,602	710	651	547	100	4,164
--------	97	--------	141	889	437	218	134	78	1,994
--------	--------	--------	--------	--------	--------	--------	--------	--------	25
$ 538	$ 6,294	$ 6,237	$ 11,037	$ 250,771	$ 90,530	$ 96,795	$ 40,907	$ 2,781	$ 509,076 (A)
$--------	$ 109	$--------	$ 93	$ 3,563	$ 954	$ 560	$ 369	$ 149	$ 5,822
--------	163	--------	214	8,852	3,959	2,480	1,629	78	17,400
--------	428	--------	397	6,727	3,193	1,956	1,227	94	14,022
--------	109	--------	186	4,529	798	714	471	105	6,937
--------	1,514	379	3,292	130,041	36,514	46,408	17,117	1,259	236,818
--------	1,289	3,115	2,219	31,029	17,435	16,803	7,172	497	81,424
--------	989	--------	1,421	24,581	2,128	8,186	5,111	412	43,397
--------	261	--------	160	7,628	3,317	2,251	1,326	74	15,117
--------	481	--------	597	5,452	2,785	1,970	1,199	129	12,643
--------	--------	--------	--------	--------	--------	--------	--------	--------	51
$ 758	$ 5,343	$ 3,494	$ 8,580	$ 222,402	$ 71,083	$ 81,328	$ 35,621	$ 2,797	$ 434,389 (A)

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts

Acct No.:	228	230	231	232	233	234	235	236
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters
West Virginia:								
Amma	$	$	$ 87	$	$ 74	$ 354	$ 173	$ 77
Bannister			183		130	223	213	170
Barboursville	131		778		911	8,391	4,458	4,471
Big Creek	51		157		215	881	173	493
Big Sandy	13		77		32	401	13	153
Blue Creek					302	1,089	745	517
Buff Lick			112		79	218		1,459
Cedarville					144			249
Ceredo	1		517		223	8,783	3,892	2,309
Charleston	906		4,665	9,738	12,489	375,460	107,682	152,286
Chelyan			129		552	6,127	2,868	2,333
Cherry Tree Bottom			93		32	1,700	1,084	994
Clendenin			379		1,014	12,969	3,598	4,642
Coalburg			122	365	962	5,593	2,940	1,227
Culloden					202	1,027	889	521
East Bank			262		269	4,147	2,062	596
East Lynn			304		237	1,707	866	726
Elkview			91		120	1,148	399	635
Fort Gay	101		207		318	3,309	1,673	1,332
Gandeeville			68		158	808	397	246
Gay					209	1,339	253	222
Greyeagle						915	148	112
Hunt					111	2,919	426	270
Huntington	26,035		5,994	7,374	9,171	402,432	115,234	53,834
Hurricane			172	599	566	5,535	2,970	2,443
Jordan Creek					254	409	120	117
Kanawha City			105		885	18,762	2,887	2,925
Kenova	400		309	252	1,182	26,356	10,858	8,145
Kermit	8,375		87		294	5,154	2,311	1,898
King			92		158	351		77

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts

230 Rights of Way	231 Dist. Reg. Structures	232 Other Dist. Structures	233 Gas Receivers and Dist. Regulators	234 Dist. Line Equipment	235 Service Line Equipment	236 Meters	237 Meter Installations	239 Other Dist. System Equipment	Total Less Deterioration
$--------	$ 87	$--------	$ 74	$ 354	$ 173	$ 77	$ 22	$--------	$ 787
--------	183	--------	130	223	213	170	108	6	1,033
--------	778	--------	911	8,391	4,458	4,471	2,273	93	21,506
--------	157	--------	215	881	173	493	303	37	2,310
--------	77	--------	32	401	13	153	97	--------	786
--------	--------	--------	302	1,089	745	517	300	--------	2,953
--------	112	--------	79	218	--------	1,459	141	44	2,053
--------	--------	--------	144	--------	--------	249	217	11	621
--------	517	--------	223	8,783	3,892	2,309	1,423	54	17,202
--------	4,665	9,738	12,489	375,460	107,682	152,286	49,049	2,924	715,199
--------	129	--------	552	6,127	2,868	2,333	1,432	69	13,510
--------	93	--------	32	1,700	1,084	994	616	37	4,556
--------	379	--------	1,014	12,969	3,598	4,642	2,184	99	24,885
--------	122	365	962	5,593	2,940	1,227	741	43	11,993
--------	--------	--------	202	1,027	889	521	324	44	3,007
--------	262	--------	269	4,147	2,062	596	368	23	7,727
--------	304	--------	237	1,707	866	726	365	66	4,271
--------	91	--------	120	1,148	399	635	401	4	2,798
--------	207	--------	318	3,309	1,673	1,332	816	93	7,849
--------	68	--------	158	808	397	246	225	38	1,940
--------	--------	--------	209	1,339	253	222	169	--------	2,192
--------	--------	--------	--------	915	148	112	70	--------	1,245
--------	--------	--------	111	2,919	426	270	173	--------	3,899
--------	5,994	7,374	9,171	402,432	115,234	53,834	19,445	1,760	641,279
--------	172	599	566	5,535	2,970	2,443	1,433	113	13,831
--------	--------	--------	254	409	120	117	76	13	989
--------	105	--------	885	18,762	2,887	2,925	1,177	168	26,909
--------	309	252	1,182	26,356	10,858	8,145	3,042	438	50,982
--------	87	--------	294	5,154	2,311	1,898	716	118	18,953
--------	92	--------	158	351	--------	77	49	--------	727

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts
(Continued)

Acct No.:	228	230	231	232	233	234	235	236	
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters	In
West Virginia—(Concluded):									
Kyger	$	$	$	$	$ 111	$ 276	$ 106	$ 103	$
Lock Seven						838	240	186	
Logan	16		382	167	158	15,622	8,573	5,414	
McClanahan			94		144	1,404	146	121	
Milliken					279	12		99	
Newton					144	20		207	
Nitro						4,880	606	7,856	
Ona			47		314	379	426	275	
Poca					215	2,048	1,460	1,092	
Quick				93	158	306		127	
Ravenswood	60		290		578	9,870	5,378	4,169	
Reedy			227		351	3,595	1,807	1,182	
Rich Creek					130	15		85	
Ripley	81		225		392	7,658	3,951	2,859	
Sandyville			162		278	1,063	662	426	
Silverton	11		136		111	1,440	370	298	
Sissonville			112		144	1,324	451	403	
South Charleston			604		3,401	31,551	7,155	7,193	
Spencer	324		405		1,514	20,675	6,187	5,064	
Stoffel			64		190	15		179	
Three Mile					73	505	146	77	
Walgrove			91		65	228	213	51	
Walton	1,141		74		272	1,581	820	623	
Williamson	100		1,119	4,836	2,085	32,831	19,570	17,645	
Miscellaneous	1,246								
Total in West Virginia	$ 38,992	$ 3,595	$ 19,022	$ 23,424	$ 42,400	$1,036,643	$ 327,599	$ 301,213	$

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts
(Continued)

230 Rights of Way	231 Dist. Reg. Structures	232 Other Dist. Structures	233 Gas Receivers and Dist. Regulators	234 Dist. Line Equipment	235 Service Line Equipment	236 Meters	237 Meter Installations	239 Other Dist. System Equipment	Total Less Deterioration
$--------	$--------	$--------	$ 111	$ 276	$ 106	$ 103	$ 96	$ 48	$ 740
--------	--------	--------	--------	838	240	186	109	--------	1,373
--------	382	167	158	15,622	8,573	5,414	2,401	240	32,973
--------	94	--------	144	1,404	146	121	76	6	1,991
--------	--------	--------	279	12	--------	99	65	4	459
--------	--------	--------	144	20	--------	207	119	--------	490
--------	--------	--------	--------	4,880	606	7,856	3,788	202	17,332
--------	47	--------	314	379	426	275	168	--------	1,609
--------	--------	--------	215	2,048	1,460	1,092	651	47	5,513
--------	--------	93	158	306	--------	127	81	--------	765
--------	290	--------	578	9,870	5,378	4,169	1,587	178	22,110
--------	227	--------	351	3,595	1,807	1,182	1,033	114	8,309
--------	-- -----	--------	130	15	--------	85	54	--------	284
--------	225	--------	392	7,658	3,951	2,859	2,423	148	17,737
--------	162	--------	278	1,063	662	426	341	79	3,011
--------	136	--------	111	1,440	370	298	228	74	2,668
--------	112	--------	144	1,324	451	403	212	11	2,657
--------	604	--------	3,401	31,551	7,155	7,193	2,799	289	52,992
--------	405	--------	1,514	20,675	6,187	5,064	1,977	296	36,442
--------	64	--------	190	15	--------	179	113	4	565
--------	--------	--------	73	505	146	77	49	--------	850
--------	91	--------	65	228	213	51	32	3	683
--------	74	--------	272	1,581	820	623	538	88	5,137
--------	1,119	4,836	2,085	32,831	19,570	17,645	6,542	470	85,198
--------	--------	--------	--------	--------	--------	--------	--------	--------	1,246
$ 3,595	$ 19,022	$ 23,424	$ 42,400	$1,036,643	$ 327,599	$ 301,213	$ 113,237	$ 8,596	$1,914,721 (A)

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts
(Concluded)

Acct No.:	228	230	231	232	233	234	235	236
Distribution Plant	Land	Rights of Way	Dist. Reg. Structures	Other Dist. Structures	Gas Receivers and Dist. Regulators	Dist. Line Equipment	Service Line Equipment	Meters
Kentucky:								
Ashland	$ 1,576	$	$ 1,997	$ 642	$ 4,281	$ 132,458	$ 39,087	$ 54,801
Buchanan					157	157	266	155
Burnaugh					111	507	186	60
Catlettsburg	80		1,961	3,268	1,498	27,410	16,403	12,389
Chinnville	30		224		373	3,280	1,422	1,183
Greenup	75		154	234	545	9,684	2,690	1,451
Himlerville			224		294	2,499	2,465	1,011
Inez	1,050		145		261	2,980	1,407	999
Louisa			445	834	1,085	10,216	5,974	5,719
Russell	150		169		441	9,433	6,074	3,769
Warfield	200		81		215	1,282	604	553
Wolf Creek			82		120	711	372	186
Miscellaneous	25							
Total in Kentucky	$ 3,186	$ 538	$ 5,482	$ 4,978	$ 9,381	$ 200,617	$ 76,950	$ 82,278
Ohio:								
Bradrick	$ 25	$	$ 87	$	$ 79	$ 2,850	$ 810	$ 476
Chesapeake	25		131		182	7,081	3,366	2,108
Coal Grove			384		337	5,381	2,714	1,663
Corryville	25		87		158	3,623	678	607
Ironton	293		1,283	341	2,799	104,033	31,037	39,447
New Boston	1,865		1,080	2,403	1,886	24,824	14,820	14,282
Portsmouth	569		821		1,208	19,665	1,809	6,958
Proctorville	100		209		136	6,103	2,819	1,913
Wheelersburg	30		375		508	4,361	2,367	1,675
Miscellaneous	51							
Total in Ohio	$ 2,983	$ 758	$ 4,457	$ 2,744	$ 7,293	$ 177,921	$ 60,420	$ 69,129

NOTE: (A) Includes Rights of Way.

Estimated Cost of Reproduction New LESS OBSERVED DETERIORATION

Summary by Distribution Plants and Accounts (Concluded)

230 Rights of Way	231 Dist. Reg. Structures	232 Other Dist. Structures	233 Gas Receivers and Dist. Regulators	234 Dist. Line Equipment	235 Service Line Equipment	236 Meters	237 Meter Installations	239 Other Dist. System Equipment	Total Less Deterioration
$--------	$ 1,997	$ 642	$ 4,281	$ 132,458	$ 39,087	$ 54,801	$ 18,213	$ 928	$ 253,983
--------	--------	--------	157	157	266	155	97	--------	832
--------	--------	--------	111	507	186	60	38	1	903
--------	1,961	3,268	1,498	27,410	16,403	12,389	7,186	449	70,644
--------	224	--------	373	3,280	1,422	1,183	731	174	7,417
--------	154	234	545	9,684	2,690	1,451	824	155	15,812
--------	224	--------	294	2,499	2,465	1,011	655	26	7,174
--------	145	--------	261	2,980	1,407	999	907	116	7,865
--------	445	834	1,085	10,216	5,974	5,719	3,199	266	27,738
--------	169	--------	441	9,433	6,074	3,769	2,343	97	22,476
--------	81	--------	215	1,282	604	553	465	86	3,486
--------	82	--------	120	711	372	186	113	66	1,650
--------	--------	--------	--------	--------	--------	--------	--------	--------	25
$ 538	$ 5,482	$ 4,978	$ 9,381	$ 200,617	$ 76,950	$ 82,278	$ 34,771	$ 2,364	$ 420,543 (A)
$--------	$ 87	$--------	$ 79	$ 2,850	$ 810	$ 476	$ 314	$ 127	$ 4,768
--------	131	--------	182	7,081	3,366	2,108	1,385	66	14,344
--------	384	--------	337	5,381	2,714	1,663	1,043	80	11,602
--------	87	--------	158	3,623	678	607	400	89	5,667
--------	1,283	341	2,799	104,033	31,037	39,447	14,549	1,070	194,852
--------	1,080	2,403	1,886	24,824	14,820	14,282	6,096	423	67,679
--------	821	--------	1,208	19,665	1,809	6,958	4,345	350	35,725
--------	209	--------	136	6,103	2,819	1,913	1,127	63	12,470
--------	375	--------	508	4,361	2,367	1,675	1,019	110	10,445
--------	--------	--------	--------	--------	--------	--------	--------	--------	51
$ 758	$ 4,457	$ 2,744	$ 7,293	$ 177,921	$ 60,420	$ 69,129	$ 30,278	$ 2,378	$ 358,361 (A)

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Summary of Valuation of Leaseholds and Natural Gas Rights

Summarizing the foregoing computations results in the total estimated value of Leaseholds and Natural Gas Rights as follows:

Estimated Value of Proven and Probably Productive Acreage	$33,155,422
Estimated Value of Unproven Acreage	3,293,754
Total Estimated Value of Leaseholds and Natural Gas Rights	$36,449,176

SUMMARIES

SUMMARY OF VALUATION

By Systems

Classification	Estimated Cost of Reproduction As of December 31, 1923 New	Less Deterioration
Production System	$49,023,964	$44,279,576
Transmission System	13,467,823	11,154,326
Distribution System	3,269,363	2,694,806
General Property	679,140	594,742
Total	$66,440,290	$58,723,450
General Overhead Charges	7,063,311	6,357,046
Working Capital	990,000	990,000
Total	$74,493,601	$66,070,496

PRINCIPAL UNIT PRICES USED IN ESTIMATING REPRODUCTION COST

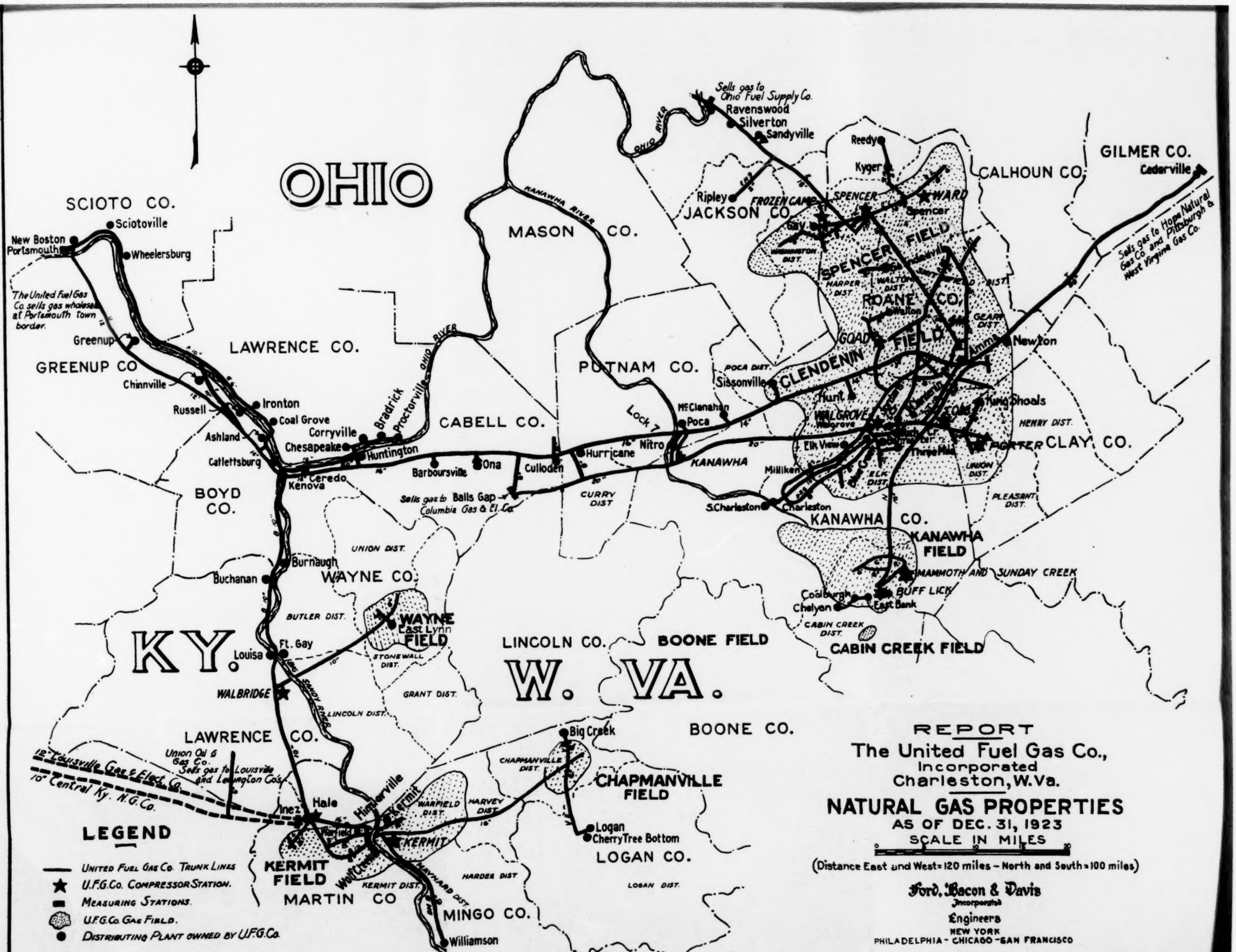
United Fuel Gas Co.
Principal Unit Prices Used in Estimating Cost of Reproduction New

Item	Unit Price
Field Pipe Lines, per foot, installed:	
(Gathering Lines)	
2 in. Screwed End	$ .3092
3 in. " "	.5686
4 in. " "	.7649
6 in. " "	1.2983
8 in. Plain End	1.8647
10 in. " "	2.4429
12 in. " "	3.2123
14 in. " "	3.6433
16 in. " "	4.1382
18 in. " "	4.8787
20 in. " "	5.3562
Transmission Pipe Lines, per foot, installed:	
2 in. Screwed End	$ .3124
3 in. " "	.5732
4 in. " "	.7717
6 in. " "	1.3080
8 in. " "	1.8785
10 in. " "	2.4659
12 in. " "	3.2640
14 in. Plain End	3.6738
16 in. " "	4.1720
18 in. " "	4.9191
20 in. " "	5.3999
Distribution Pipe Lines, per foot, installed:	
2 in. Charleston, D. P.	.2881
3 in. " " "	.5143
4 in. " " "	.6882
6 in. " " "	1.1915
8 in. " " "	1.5864
10 in. " " "	2.1137

United Fuel Gas Co.
Principal Unit Prices Used in Estimating Cost of Reproduction New

(Concluded)

Item	Unit Price
12 in. " " "	
14 in. " " "	2.8810
16 in. " " "	3.1524
	3.6285
Wells:	
Average Cost per Well	$10,163.32
Material Cost per ft. (Average)	1.37
Labor Cost per ft. (Average)	3.74
Total Cost per ft. (Average)	$ 5.11
Compressing Stations:	
Average Cost per H. P. of Comp. Stations	$ 124.70
Meters—installed:	
Charleston Dist. Plant	
Tobey A	$ 13.84
" 1	14.33
" 2	23.85
" 3	37.15
" 4	83.27
Services—installed:	
Charleston Dist. Plant	
1 in.	$ 8.42
1-¼ in.	9.52
1-½ in.	10.57
2 in.	12.96


OHIO
SCIOTO CO.
Sciotoville
New Boston
Portsmouth
Wheelersburg
The United Fuel Gas Co. sells gas wholesale at Portsmouth town border.
Greenup
GREENUP CO
Chinnville
Russell
Ironton
Coal Grove
Ashland
Chesapeake
Huntington
Catlettsburg
Ceredo
Kenova
BOYD CO.
LAWRENCE CO.
Bradrick
Proctorville
OHIO RIVER
CABELL CO.
Barboursville
Ona
Culloden
Hurricane
Nitro
Lock 7
McClenahan
Poca
Sells gas to Balls Gap Columbia Gas & El. Co.
CURRY DIST
KANAWHA RIVER
MASON CO.
POTNAM CO.
POCA DIST.
Sissonville
Sells gas to Ohio Fuel Supply Co.
Ravenswood
Silverton
Sandyville
Ripley
JACKSON CO.
FROZEN CAMP
Reedy
Kyger
SPENCER
WARD
Spencer
Gary
WASHINGTON DIST.
SPENCER FIELD
HARPER DIST.
WALTON DIST.
ROANE CO.
Walton
GEARY DIST.
GOAD FIELD
GLENDENIN
Hurst
WALGROVE
Walgrove
Amma
Newton
Elk View
Milliken
KANAWHA
ELK DIST.
S. Charleston
Charleston
CALHOUN CO.
GILMER CO.
Cedarville
Sells gas to Hope Natural Gas Co. and Pittsburgh & West Virginia Gas Co.
King Shoals
HENRY DIST.
PORTER
CLAY CO.
Three Mile
UNION DIST.
PLEASANT DIST.
KANAWHA CO.
KANAWHA FIELD
MAMMOTH AND SUNDAY CREEK
BUFF LICK
Coalburgh
Chelyan
East Bank
CABIN CREEK DIST.
CABIN CREEK FIELD
LINCOLN CO.
BOONE FIELD
W. VA.
BOONE CO.
Big Creek
CHAPMANVILLE DIST.
CHAPMANVILLE FIELD
Logan
CherryTree Bottom
LOGAN CO.
LOGAN DIST.
UNION DIST.
Burnaugh
Buchanan
WAYNE CO.
BUTLER DIST.
WAYNE
East Lynn
FIELD
STONEWALL DIST.
GRANT DIST.
KY.
Louisa
Ft. Gay
WALBRIDGE
Sandy River
LINCOLN DIST.
LAWRENCE CO.
Union Oil & Gas Co. Sells gas to Louisville and Lexington Cos.
12" Louisville Gas & Elect. Co.
10" Central Ky. N.G. Co.
Inez
Hale
Hagerville
Kermit
WARFIELD DIST.
HARVEY DIST.
KERMIT
KERMIT FIELD
MARTIN CO
Wolf Creek
KERMIT DIST.
HARDEE DIST
MINGO CO.
Williamson
LEGEND
UNITED FUEL GAS CO. TRUNK LINES
U.F.G.CO. COMPRESSOR STATION.
MEASURING STATIONS.
U.F.G.CO. GAS FIELD.
DISTRIBUTING PLANT OWNED BY U.F.G.CO.
REPORT
The United Fuel Gas Co.,
Incorporated
Charleston, W.Va.
NATURAL GAS PROPERTIES
AS OF DEC. 31, 1923
SCALE IN MILES
0 5 10 20
(Distance East and West = 120 miles – North and South = 100 miles)
Ford, Bacon & Davis
Incorporated
Engineers
NEW YORK
PHILADELPHIA - CHICAGO - SAN FRANCISCO

Warfield Natural Gas Company
(Including United Fuel Gas Company and Cabin Creek Gas Company)
Analysis of Expenses and Return on Investment
Based on Expenses and Sales 12 Month Period Ending August 31, 1934
Valuation Basis - Estimated Cost of Reproduction New
as of December 31, 1933 with Net Additions for 8 Months Ending August 31, 1934 Added

Major Section Distribution

	Divisors in M.c.f.		Rate of Return 8%		Rate of Return 10%	
			Amount	Rate Per M.	Amount	Rate Per M.
Expense						
Production	Total Sales	44,539,457	$2,405,601	$ .05401	$2,405,601	$ .05401
Transmission	Total Sales Less Field Sales	43,617,881	618,637	.01418	618,637	.01418
				$ .06819		$ .06819
Depreciation						
Production System	Total Sales	44,539,457	$ 309,783	$ .00471	$ 309,783	$ .00471
Transmission System	Total Sales Less Field Sales	43,617,881	569,600	.01306	569,600	.01306
General Property (Less General in Dist.)	Total Sales	44,539,457	30,393	.00046	30,393	.00046
				$ .01833		$ .01833
Return						
Production System	Total Sales	44,539,457	$3,766,117	$ .08456	$4,707,647	$ .10570
Transmission System	Total Sales Less Field Sales	43,617,881	1,301,439	.03984	1,636,799	.03730
General Property (Less General in Dist.)	Total Sales	44,539,457	49,773	.00113	62,316	.00140
Working Capital - Production	Total Sales	44,539,457	53,098	.00119	66,373	.00149
Working Capital - Transmiesion	Total Sales Less Field Sales	43,617,881	13,655	.00031	17,069	.00039
				$ .11702		$ .14638
Depletion						
Proven Acreage	Total Sales	44,539,457	$1,731,578	$ .03865	$1,731,578	$ .03865
Unproven Acreage	Total Sales	44,539,457	397,933	.00669	397,933	.00669
Wells	Total Sales	44,539,457	1,486,066	.03337	1,486,066	.03337
				$ .07871		$ .07871
Amortization						
Production System (Plant not Depletable)	Total Sales	44,539,457	$ 187,653	$ .00421	$ 187,653	$ .00421
Transmission System	Total Sales Less Field Sales	43,617,881	660,687	.01515	660,687	.01515
General Property (Less General in Dist.)	Total Sales	44,539,457	14,461	.00033	14,461	.00033
				$ .01968		$ .01968
Total City Gate Rate				$0.30183		$0.33109
Distribution						
Expenses	Sales thru Dist. Plants	1,916,873	$ 77,925	$ .04065	$ 77,925	$ .04065
Depreciation - Distribution Property	Sales thru Dist. Plants	1,916,873	18,798	.00981	18,798	.00981
Depreciation - General Property	Sales thru Dist. Plants	1,916,873	339	.00017	329	.00017
Return -Distribution Property	Sales thru Dist. Plants	1,916,873	53,008	.03765	66,360	.03457
Return - General Property	Sales thru Dist. Plants	1,916,873	306	.00016	382	.00030
Return - Working Capital	Sales thru Dist. Plants	1,916,873	1,394	.00073	1,743	.00091
Amortization - Distribution Property	Sales thru Dist. Plants	1,916,873	27,040	.01411	27,040	.01411
Amortization - General Property	Sales thru Dist. Plants	1,916,873	141	.00007	141	.00007
				$ .09335		$ .10049
Total Distribution Rate				$0.39518		$0.43158

Warfield Natural Gas Company

(Including United Fuel Gas Company and Cabin Creek Gas Company)

Analysis of Expenses and Return on Investment
Based on Expenses and Sales 12 Month Period Ending August 31, 1934
Valuation Basis - Estimated Cost of Reproduction New
as of December 31, 1923 with Net Additions for 8 Months Ending August 31, 1934 Added

Minor Section Distribution

	Divisors in M.c.f.		Rate of Return 8% Amount	Rate of Return 8% Rate Per M.	Rate of Return 10% Amount	Rate of Return 10% Rate Per M.
Expense						
Purchased Gas	Sales in Minor Section	(A) 5,882,541		$0.30183		$0.33109
Transmission	Sales in Minor Section	(A) 5,882,541	$ 89,897	.01528	$ 89,897	.01528
Depreciation						
Transmission System	Sales in Minor Section	(A) 5,882,541	51,556	.00876	51,556	.00876
Return						
Transmission System	Sales in Minor Section	(A) 5,882,541	124,460	.03116	155,576	.02645
Working Capital	Sales in Minor Section	(A) 5,882,541	1,984	.00034	2,480	.00042
Amortization						
Transmission System	Sales in Minor Section	(A) 5,882,541	68,057	.01157	68,057	.01157
Total City Gate Rate				$0.35894		$0.39357
Distribution						
Expense	Sales in Dist. Plants	1,916,873	$ 77,935	$ .04065	$ 77,935	$ .04065
Depreciation - Distribution Property	Sales in Dist. Plants	1,916,873	18,798	.00981	18,798	.00981
Depreciation - General Property	Sales in Dist. Plants	1,916,873	339	.00017	339	.00017
Return - Distribution Property	Sales in Dist. Plants	1,916,873	53,008	.02765	66,360	.03457
Return - General Property	Sales in Dist. Plants	1,916,873	306	.00016	383	.00020
Return - Working Capital	Sales in Dist. Plants	1,916,873	1,394	.00073	1,743	.00091
Amortization - Distribution Property	Sales in Dist. Plants	1,916,873	27,040	.01411	27,040	.01411
Amortization - General Property	Sales in Dist. Plants	1,916,873	141	.00007	141	.00007
				$ .09335		$ .10049
Total Distribution Rate				$0.45229		$0.49406

(A) Sales on lines G, F and U to distribution plants, plus sales direct from main lines.

[fol. 1409] UEBELACKER EXHIBIT No. 3

Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co), Kentucky Distribution

Analysis of Expenses and Return on Investment for M. C. F. Based on Expenses and Sales for 12-Month Period Ending August 31, 1924

Valuation Basis, Estimated Cost of Reproduction New as of December 31, 1923, with Net Additions for 8 Months Ending August 31, 1924, Added

(Here follow side folio pages 1410 and 1411)

[fol. 1412] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Apportionment of General Expenses to Systems for 12-Month Period Ending August 31, 1924

Operating Expenses:	Net direct operating expenses (C)	Proportion of general expenses	Total expenses
Production Expenses (excluding Gas Purchased)	$1,192,010.21	$542,169.12	$1,734,179.33
Gas Purchased	671,421.20	.....	671,421.20
Total Production and Gas Purchase Expense	.....	.....	$2,405,600.53
Transmission Expense	487,013.13	221,511.09	708,524.22(B)
Distribution Expense	350,718.12	159,519.21	510,237.33
Total Gas Division Expense	$2,701,162.66	$923,199.42	$3,624,362.08
Oil and Gasoline Expense	32,328.36	6,432.94(A)	
General Expense	929,632.36	$929,632.36	

Note (A): Apportionment of Cabin Creek Gas Co. General Expenses Account of Oil and Gasoline Operations:

	Net direct operating expenses	Proportion of general expenses
Production	$7,494.93	
Transmission	9,580.45	
Total Gas Division	$17,075.38	$3,397.79
Oil and Gasoline	32,328.36	6,432.94
	$49,403.74	$9,830.73
General Expenses	9,830.73	

NOTE (B): For amounts applicable to Major and Minor Sections see statement showing Allocation of Transmission System Expense.

(C): For details of the figures in this column see statement showing Details of Operating Expenses.

[fol. 1413] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Allocation of Transmission System Expense

Transmission System Expense:	Total trans. system expense	Trans. line expense (A)	Balance or pumping, etc., expense
Direct	$619,314.62	$119,594.71	$499,719.91
Less Gas Used in Own Operations	132,301.49	.....	132,301.49
Net Direct Expense	$487,013.13	$119,594.71	$367,418.42
Add Proportion of General Expense	221,511.09	54,395.98	167,115.11
Total	$708,524.22	$173,990.69	$534,533.53

Allocation of Transmission Line Expense on Basis of Miles of Main, i. e.:

Section	Miles of main	% of total	Trans. line expense
Major(B)	458.1	84.83%	$147,596.30
Minor(C)	81.9	15.17%	26,394.39
	540.0	100.00%	$173,990.69

Allocation of Balance or Pumping, etc., Expenses on Basis of Sales, i. e.:

Section	Total sales (M c. f.)	Less sales through field lines (M c. f.)	Sales through trans. lines (M c. f.)	% of total	Balance or pumping, etc., expense
Major(B)	44,539,457	921,576	43,617,881(D)	88.12%	$471,030.95
Minor(C)	5,882,541	.....	5,882,541	11.88%	63,502.58
					$534,533.53

Total Expense Applicable to Each Section

Major Section(B)	$618,627.25
Minor " (C)	89,896.97
	$708,524.22

NOTE (A).—Transmission Line Expense:

Operating Transmission Lines	$38,153.67
Trans. Line Tools & Supplies	3,587.99
Changing Construction	14,041.47
Transmission Line Maintenance	63,811.58
	$119,594.71

[fol. 1414]

NOTE (B).—Major Section is that part of the Transmission System which is in West Virginia and the eastern part of Kentucky south from the Junction of Big Sandy with the Ohio River.

(C).—Minor Section is that part of the Transmission System extending Northwest from the West Virginia Border at the Junction of the Big Sandy with Ohio River.

(D).—Represents Total Sales less Field Sales as well as quantity rehandled and sold in Minor Sections.

[fol. 1415] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Details of Operating Expenses for 12-month Period Ended August 31, 1924

Production Expense	United Fuel Gas Company	Warfield Natural Gas Company	Cabin Creek Gas Company	Total combined	Eliminations	Net operating expenses
Operation:						
Superintendence	$5,340.46	$912.44	$31.99	$6,284.89	.....	$6,284.89
Operating Wells and Lines	99,596.83	5,685.09	2,382.87	107,664.79	$6,202.51 (A)	101,462.28
Production Tools and Supplies	9,993.69	1.65	32.42	10,027.76	.....	10,027.76
Field Measuring Stations	17,627.26	590.89	201.12	18,419.27	.....	18,419.27
Leasehold Expense	43,722.90	2,219.83	.....	45,942.73	.....	45,942.73
Rentals on Unoperated Leases	603,116.01	44,423.68	.....	647,539.69	.....	647,539.69
Well Royalties	183,662.17	5,685.57	3,431.99	192,779.73	.....	192,779.73
Cancelled and Surrendered Leases	117.79	3.88	.....	121.67	.....	121.67
Miscellaneous and Insurance	20,493.00	1,663.14	54.88	22,211.02	.....	22,211.02
Maintenance:						
Changing Construction	12,622.39	80.70	289.45	12,992.54	12,992.54 (B)	.....
Repairs to Wells	101,783.75	14,179.10	264.73	116,227.58	.....	116,227.58
Repairs to Field Lines	24,239.30	1,808.78	741.55	26,789.63	.....	26,789.63
Field Measuring Stations	3,964.41	175.62	63.93	4,203.96	.....	4,203.96
Total	$1,126,279.96	$77,430.37	$7,494.93	$1,211,205.26	$19,159.05	$1,192,010.21
Gas Purchased	938,308.24	1,046,401.97	.....	1,984,710.21	1,313,289.01 (C)	671,421.20
Total Production	$2,064,588.20	$1,123,832.34	$7,494.93	$3,195,915.47	$1,332,484.06	$1,863,431.41

Transmission Expenses

Operation:						
Superintendence	$4,808.81	$38.32	.....	$4,847.13	.....	$4,847.13
Transmission Lines	34,421.78	3,731.89	.....	38,153.67	.....	38,153.67
Transmission Tools and Supplies	3,519.71	68.28	.....	3,587.99	.....	3,587.99
Compressing Stations	351,860.72	7,994.15	$7,629.65	367,484.52	$132,301.49 (A)	235,183.03
Measuring Stations	8,591.80	272.95	.....	8,864.75	.....	8,864.75
Miscellaneous and Insurance	8,452.32	.....	.....	8,452.32	.....	8,452.32
Maintenance:						
Changing Construction	10,936.12	3,105.35	.....	14,041.47	.....	14,041.47
Transmission Lines	58,424.11	5,387.47	.....	63,811.58	.....	63,811.58
Compressing Stations	102,557.75	3,798.54	1,950.80	108,307.09	.....	108,307.09
Measuring Stations	1,554.25	209.85	.....	1,764.10	.....	1,764.10
Total Transmission	$585,127.37	$24,606.80	$9,580.45	$619,314.62	$132,301.49	$487,013.13

[fol. 1416] Distribution Expenses

Operation:						
Superintendence	$3,119.84	$980.83	.....	$4,100.67	.....	$4,100.67
Operating Lines	51,791.57	8,721.11	.....	60,512.68	.....	60,512.68
Connecting and Disconnecting Meters	28,500.24	6,913.83	.....	35,414.07	.....	35,414.07
Electrolysis	13.75	.....	.....	13.75	.....	13.75
Shop Expense	9,526.57	2,447.84	.....	11,974.41	.....	11,974.41
Miscellaneous and Insurance	2,443.12	156.30	.....	2,599.42	.....	2,599.42
Maintenance:						
Changing Construction	19,812.40	7,471.97	.....	27,284.37	.....	27,284.37
Lines and Regulators	15,634.96	5,355.65	.....	20,990.61	.....	20,990.61
Meters and House Regulators	29,891.62	5,408.63	.....	35,300.25	.....	35,300.25
Services	21,143.16	4,251.23	.....	25,394.39	.....	25,394.39

NOTE.—(A) Gas used in own operations. (B) Considered in Depletion of Wells. (C) Inter-company purchases.

Details of Operating Expenses for 12-month Period Ended August 31, 1924—Continued

Commercial Expense:	United Fuel Gas Company	Warfield Natural Gas Company	Cabin Creek Gas Company	Total combined	Eliminations	Net operating expenses
Reading Meters	19,203.20	3,708.52	.....	22,911.72	.....	22,911.72
Salaries of Office Force and Collectors.	74,567.90	13,860.03	.....	88,427.93	.....	88,427.93
Rents, Heat, Light, Telephone Rentals and Tolls	7,847.95	1,576.21	.....	9,424.16	$1,510.35 (A)	7,913.81
Stationery and Supplies	6,497.60	1,160.52	.....	7,658.12	.....	7,658.12
Miscellaneous and Insurance	138.14	83.78	.....	221.92	.....	221.92
Total Distribution	$290,132.02	$62,096.45	.....	$352,228.47	$1,510.35	$350,718.12
General Expense:						
Salaries and Expenses of General Officers	$78,191.88	$4,895.65	$1,500.00	$84,587.53	.....	$84,587.53
General Office Expense	70,380.41	4,912.88	765.78	76,059.07	.....	76,059.07
Private Telegraph and Telephone Lines	15,399.12	1,651.25	.....	17,050.37	.....	17,050.37
Legal Expense	64,239.25	4,793.21	.....	69,032.46	.....	69,032.46
Insurance	6,956.86	518.05	196.32	7,671.23	.....	7,671.23
Damages	259.48	124.57	.....	384.05	.....	384.05
Relief and Annuities	9,613.80	53.50	41.52	9,708.82	.....	9,708.82
Taxes	483,972.48	15,542.00	5,041.86	504,556.34	.....	504,556.34
Miscellaneous	141,103.09	8,364.37	1,174.38	150,641.84	.....	150,641.84
Outside operations	3,953.47	1,065.98	.....	5,019.45	.....	5,019.45
Bad Debts	598.44	131.05	.....	729.49	.....	729.49
Gas Used by Company	138,584.84*	1,429.51*	.....	140,014.35*	$140,014.35*	.....
Cleaning out Tools	2,939.47*	.....	.....	2,939.47*	.....	2,939.47*
Company Teaming	2,212.50	.....	.....	2,212.50	.....	2,212.50
Rents and Repairs to Buildings	2,059.96	.....	1,110.87	3,170.83	.....	3,170.83
Machine and Blacksmith Shop	1,597.86	149.99	.....	1,747.85	.....	1,747.85
Total General Expense	$739,014.29	$40,772.99	$9,830.73	$789,618.01	$140,014.35*	$929,632.36
Oil Expense	.....	.....	$13,430.32	$13,430.32	.....	$13,430.32
Gasoline Expense	.....	.....	$18,898.04	$18,898.04	.....	$18,898.04

NOTE.—(A) Gas used in own operations. [*Red in copy.]

[fol 1417] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Rates and Amount of Depreciation on Depreciable Physical Property Allocated by Systems and Accounts

	Production System:	Valuation	Rate	Amount
Acct. 208	Gas Well Structures (Deter. Value)	$44,520	10%	$4,452
209	Field Meas. Station Struct	4,919	5	246
210	Other Production System Struct	111,759	5	5,588
213	Field Line Construction (Deprec. Value)	936,522	5	46,826
214	Field Line Equipment (Deprec. Value)	2,045,695	5	102,285
215	Field Meas. Sta. Equipment	40,637	4	1,625
216	Drilling and Cleaning Equipment (Deter. Value)	142,822	15	21,423
217	Other Production System Equipment	33,035	5	1,652
	Net Additions	168,818	5.48	9,251
	Total			$193,348
	Overheads (General)			16,435
	Total			$209,783
	Transmission System (Major Section):			
Acct. 221	Compressing Station Struct	$271,494	4%	$10,860
222	Transmission System Meas. Sta. Struct.	2,752	4	110
223	Other Transmission System Struct	209,974	4	8,399
224	Compressing Station Equipment	3,241,759	5	162,088
225	Transmission System Meas. Sta. Equipment	21,120	4	845
226	Transmission System Equipment	8,360,169	4	334,407
227	Other Transmission System Equipment	29,439	4	1,177
	Net Additions	—1,593	4.26	—68
	Total			$517,818
	Overheads (General)			51,782
[fol. 1418]				
	Total			$569,600
	Transmission System (Minor Section):			
Acct. 222	Transmission System Meas. Sta. Struct.	$424	4%	$17
223	Other Transmission System Struct	2,637	4	105
225	Transmission System Meas. Sta. Equipment	1,961	4	78
226	Transmission System Equipment	1,160,687	4	46,427
227	Other Transmission System Equipment	5,796	4	232
	Net Additions	231	4.26	10
	Total			$46,869
	Overheads (General)			4,687
	Total			$51,556

	Distribution System—Kentucky:	Valuation	Rate	Amount
Acct. 231	District Regulator Struct.	$6,294	4%	$252
232	Other Distribution System Struct.	6,237	3	187
233	Gas Receivers and District Regulators	11,037	3	331
234	Distribution Line Equipment	250,771	3	7,523
235	Service Line Equipment	90,530	3	2,716
236	Meters	96,795	3	2,904
237	Meter Installations	40,907	5	2,045
239	Other Distribution System Equipment	2,781	3	83
	Net Additions	28,216	3.17	894
	Total			$16,935
	Overheads (General)			1,863
[fol. 1419]	Total			$18,798
	General Property Applicable to Kentucky Distribution System:			
Acct. 249	General Office Equipment	$2,420	5%	$121
253	General Garage Equipment	710	25	178
	Total			$299
	Overheads (General)			30
	Total			$329
	General Property:			
Acct. 247	General Office Structures	$91,680	2%	$1,834
249	General Office Equipment	42,493	5	2,125
251	General Shop Equipment	18,055	10	1,805
252	General Stable Equipment	10,799	10	1,080
255	General Tel. and Tel. Equipment	204,214	5	10,211
256	General Tools and Implements	7,295	20	1,459
	Net Additions	495	4.94	24
	Total			$18,538
	Overheads (General)			1,854
	Total			$20,392

[fol. 1420] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Return on Valuation at Rates of 8 and 10 Per Cent on Estimated Cost of Reproduction New

	Valuation	Amount of return	
		At 8%	At 10%
Production System	$47,076,468 (A)	$2,766,117	$4,707,647
Transmission System:			
Major Section	16,267,988	1,301,439	1,626,799
Minor Section	1,555,755	124,460	155,576
Distribution System (Kentucky)	662,602	53,008	66,260
General Property:			
Applicable to Distribution (Kentucky)	3,819	306	382
Balance	622,156	49,773	62,216
Working Capital:			
Production System	663,731	53,098	66,373
Transmission System:			
Major Section	170,686	13,655	17,069
Minor Section	24,803	1,984	2,480
Distribution (Kentucky)	17,419	1,394	1,742

NOTE.—(A) The difference between this amount and that shown on Statement showing Valuation of Production System Property is due to the fact that the return is computed on the Deteriorated Value of certain classes of production property.

[fol. 1421] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company)

Summary of Valuation

	Estimated cost of reproduction new
Production System	$48,509,062
Transmission System:	
Major Section	12,911,298
Minor Section	1,234,726
Distribution System (Kentucky)	543,195
General Property:	
Applicable to Distribution (Kentucky)	3,130
Balance	513,367
Total	$63,714,778
Overheads (General)	6,739,548
Total	$70,454,326

[fol. 1422] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company)

Allocation of Valuation

Production System, Estimated Cost of Reproduction New

Account number	Account	Total
204	Land:	
205 207	Leaseholds Natural Gas Rights	$35,319,617
206	Rights of Way	111,454
208	Gas Well Structures	59,360(A)
209	Field Measuring Station Structures	4,919
210	Other Production System Structures	111,759
211	Gas Well Construction	5,869,386(A)
212	Gas Well Equipment	2,156,587(A)
213	Field Line Construction	1,244,603
214	Field Line Equipment	2,658,379
215	Field Measuring Station Equipment	40,637
216	Drilling & Cleaning Equipment	204,030(A)
217	Other Production System Equipment	33,035
	Net Additions	168,818
	Total	$47,982,584
	Incomplete Construction	526,478
	Total	$48,509,062
	Overheads (General)	2,832,944
	Total Production System	$51,342,006(A)

Note.—(A) Included at Deteriorated Value in Estimated Cost of Reproduction New Basis for Computing Return.

[fol. 1423] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company)

Allocation of Valuation

Transmission System, Based Upon Geographical Location in Districts as Indicated

Estimated Cost of Reproduction New

Account number	Account	Total	Ohio	Northwest Kentucky (A)	Minor section. Ohio and N. W. Kentucky	Balance or major section
218	Land	$3,533	.....	.....	.....	$3,533
219	Leaseholds	.....	.....	.....	.....	.....
220	Rights of Way	159,713	$49,784	$11,253	$61,037	98,676
221	Compressing Station Structures	271,494	.....	.....	.....	271,494
222	Tarnsmission System Measuring Station Structures	3,176	296	128	424	2,752
223	Other Transmission System Structures	212,611	2,428	209	2,637	209,974
224	Compressing Station Equipment	3,241,759	.....	.....	.....	3,241,759
225	Transmission System Measuring Station Equipment	23,081	1,205	756	1,961	21,120
226	Transmission System Equipment	9,520,856	347,817	812,870	1,160,687	8,360,169
227	Other Transmission System Equipment	35,235	3,336	2,460	5,796	29,439
	Net Additions	1,362	96	135	231	1,593
	Total	$13,470,096	$404,962	$827,811	$1,232,773	$12,237,323
	Incomplete Construction	675,928	1,953	.....	1,953	673,975
	Total	$14,146,024	$406,915	$827,811	$1,234,726	$12,911,298
	Overheads (General)	3,677,719	105,798	215,231	321,029	3,356,690
	Total Transmission	$17,823,743	$512,713	$1,043,042	$1,555,755	$16,267,988

NOTE.—(A) Lines and other property located in that section of system in Kentucky extending Northwest from the West Virginia border at Junction of Big Sandy with Ohio River.

[fol. 1424] Warfield Natural Gas Company

Valuation of Distribution System Property

Acct. No.	Account	Estimated cost of reproduction new
228	Land	$3,186
230	Rights of Way	538
231	District Regulator Structures	6,294
232	Other Distribution Structures	6,237
233	Gas Receivers & District Regulators	11,037
234	Distribution Line Equipment	250,771
235	Service Line Equipment	90,530
236	Meters	96,795
237	Meter Installations	40,907
239	Other Distribution System Equipment	2,782
	Net Additions	28,216
	Total	$537,293
	Incomplete Construction	5,903
	Total	$543,196
	Overheads (General)	119,408
	Total	$662,604

[fol. 1425] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company)

Allocation of Valuation

Transmission System, Based Upon Geographical Location in Districts as Indicated

Estimated Cost of Reproduction New

Account number	Account	Total	Distribution			Balance of general
			Ohio	Kentucky	West Virginia	
244	General Office Land	$174,500	....	....	$65,442	$104,434 2,375 (A) 2,249
245	Other General Land	31,653	....	....	.....	31,653
246	Leaseholds	.....	....	....	.....	.....
247	General Office Structures	144,587	....	....	49,643	91,680 3,264 (A)
248	Other General Structures	.....	....	....	.....	.....
249	General Office Equipment	59,429	$3,071	$2,420	10,770	19,441 675 (A) 23,052
250	General Store Equipment	.....	....	....	.....	.....
251	General Shop Equipment	18,055	....	....	.....	18,055
252	General Stable Equipment	10,799	....	....	.....	10,799
253	General Garage Equipment	28,608	799	710	27,099	.....
254	General Laboratory Equipment	.....	....	...	.....	.....
255	General Telephone & Telegraph Equipment	204,214	....	....	.....	204,214

Estimated Cost of Reproduction New—Continued

Account number	Account	Total	Distribution			Balance of general
			Ohio	Kentucky	West Virginia	
256	General Tools & Implements	7,295	....	....	.....	7,295
257	Other General Equipment	.....	....	....	.....	.....
	Net Additions	495	....	....	.....	495
	Total	$679,635	$3,870	$3,130	$152,954	$519,681
	Overheads (General)	143,335	851	689	31,687	110,108
	Total	$822,970	$4,721	$3,819	$184,641	$629,789

	Total balance, ex-cluding Virginian Gas & Oil Company
Note.—(A) Based upon floor space of offices and equipment used by Virginian Gasoline and Oil Company	$513,367
Overheads	108,789
Total	$622,156

[fol. 1426] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Depletion of Proven and Unproven Acreage and Wells

	Valuation	Amount of annual depletion
Proven Acreage	$32,042,350	
This amount divided by the estimated remaining gas content of 640,846,998 M. c. f. results in a unit per M. c. f. of $.05. This unit when multiplied by the annual production of 34,431,559 M. c. f. gives the amount of annual amortization	.....	$1,721,578
Unproven Acreage	3,277,267	
It is indicated from the Company's records that the rate of turnover is once every eleven years therefore 1/11 of this amount is depleted each year	.....	297,933
Wells	27,656,980	
Dividing this amount by the estimated gas content of 640,846,998 M. c. f. results in a unit per M. c. f. of $.04316 which when multiplied by the annual production of 34,431,559 M. c. f. gives the amount of annual depletion	.....	1,486,066

[fol. 1427] Annual Amount of Amortization Based on Deteriorated Values

	Deteriorated value	Annual amount of amortization
Production System	$3,493,106	
This amount is divided by the estimated recoverable gas content of 640,846,998 M. c. f. resulting in a unit per M. c. f. of $0.00545 which when multiplied by the annual production of 34,431,559 M. c. f. amounts to	.....	$187,652
Transmission System—Major Section	12,294,841	
This amount is divided by the proportion of the estimated recoverable gas content which is expected to pass through the Major Section Transmission System (627,389,211 M. c f.		

Annual Amount of Amortization Based on Deteriorated Values—Continued

	Deteriorated value	Annual amount of amortization
(A)) resulting in a unit per M. c. f. of $.01960. This unit is then multiplied by the proportion of the annual production expected to pass through the Major Section Transmission System (33,708,496 M. c. f.) which amounts to	.....	660,687
Transmission System—Minor Section ..	1,266,690	
This amount is divided by the proportion of the estimated recoverable gas content which is expected to pass through the Minor Section Transmission System (84,591,804 M. c. f. (B)) resulting in a unit per M. c. f. of $0.014974. This unit is then multiplied by the proportion of the annual production expected to pass through Minor Section Transmission System (4,544,966 M. c. f.) resulting in an amount of	.....	68,057
[fol. 1428] Distribution System (Kentucky)	502,952	
This amount divided by the proportion of the estimated recoverable gas content expected to be sold through the Distribution Plants (27,556,421 M. c. f. (C)) results in a unit per M. c. f. of $0.01825 which when multiplied by the proportion of annual production that will pass through the Distribution Plants (1,480,557 M. c. f.) gives the amount of annual amortization.....	.....	27,020
General Property Applicable to Distribution System (Kentucky only).....	2,617	
This amount is divided by the proportion of the estimated recoverable gas content expected to be sold through the Distribution Plants (27,556,421 M. c. f. (C)) and results in a unit per M. c. f. of $0.000095. This unit when multiplied by the proportion of annual production expected to be sold through the Distribution plants (1,480,557 M. c. f.) results in an amount of	.....	141

Annual Amount of Amortization Based on Deteriorated Values—Continued

	Valuation	Amount of annual depletion
General		
This amount is divided by the total estimated recoverable gas content of 640,846,998 M. c. f. resulting in a unit per M. c. f. of $.00042. This unit when multiplied by the annual production of 34,431,559 M. c. f. results in an amount of	266,813	14,461

NOTE.—(A) Based upon the ratio of the quantity of gas handled through the Transmission System to the total gas sold.

[fol. 1429] (B) Based upon the ratio of the quantity of gas sold from the Minor Section Transmission System to the total gas sold.

(C) Based upon the ratio of the quantity of gas sold through Distribution Plants in Kentucky to total gas sold.

[fol. 1432] Details of Amortization of Transmission System, Minor Section

		Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
Acct. 218	Land	.....	.....	.....
219	Leaseholds	.....	.....	.....
220	Rights of Way	$61,037	.....	$61,037
221	Compressing Station Structures	.....	.....	.....
222	Transmission System Meas. Sta. Structures	424	.....	424
223	Other Trans. Sys. Structures	2,193	.....	2,193
224	Compressing Station Equipment	.....	.....	.....
225	Transmission System Meas. Sta. Equipment	1,667	$142	1,525
226	Transmission System Equipment	963,370	52,022	911,348
227	Other Transmission System Equipment	4,927	251	4,676
	Net Additions	231	23	208
	Total			$981,411
	Overheads, General			285,279
	Total			$1,266,690

[fol. 1433] Details of Amortization of Distribution Property in Kentucky

	Distribution System:			
Acct. 228	Land	$3,186	$3,186	.....
229	Leaseholds	.....	.....	.....
230	Rights of Way	538	.....	$538
231	District Regulator Structures	5,482	.....	5,482

232	Other Distribution Structures	4,978	.....	4,978
233	Gas Receivers and Distribution Regulators	9,381	675	8,706
234	Distribution Line Equipment	200,617	10,231	190,386
235	Service Line Equipment	76,950	3,386	73,564
236	Meters	82,276	12,259	70,017
237	Meter Installation	34,771	9,910	24,861
238	House Regulators	.....	.....	.....
239	Other Distribution System Equipment	2,364	1,347	1,017
	Net Additions	28,216	2,822	25,394
	Total			$404,943
	Overheads, General			98,009
	Total			$502,952

[fol. 1434]

Details of Amortization of General Property

General Property Applicable to Kentucky Distribution Systems:

Acct. 249	General Office Equipment	$1,805	$181	$1,624
253	General Garage Equipment	497	50	447
	Total			$2,071
	Overheads (General)			546
	Total			$2,617

Details of Amortization of Distribution Property in Kentucky—Continued

		Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
	General:			
Acct. 249	General Office Equipment	$41,184	$11,820(B)	$29,364
251	General Shop Equipment	13,487	.....	13,487
252	General Stable Equipment	8,941	.....	8,941
253	General Garage Equipment	20,340	20,340(B)	.....
255	General Tel. & Tel. Equipment	155,844	.....	155,844
256	General Tools & Implements	5,186	.....	5,186
	Net Additions	495	50	445
	Total			$213,267
	Overheads (General)			53,546
	Total			$266,813

(B) Additional Salvable Value.

[fol. 1435] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Divisors Used in Computing Unit Cost per M c. f.

Sales, in M c. f., 12-month Period Ending August 31, 1924

	Production system	Transmission system, major	Transmission system, minor	Kentucky distribution system
Wholesale	28,849,924	28,849,924	1,302,945	.....
Distribution Plants	13,191,821	13,191,821	3,311,573	1,916,873
Field Line Sales	865,174	.....	.....	.....
Carbon Black Div'n	56,402	.....	.....	.....
Main Line Sales	1,576,136	1,576,136	1,268,023	.....
Total	44,539,457	43,617,881	5,882,541	1,916,873
Per Cents	.....	97.9%	13.2%	4.3%

Divisors for Depreciation, Return and Amortization of General Property are:

General applicable to Kentucky Distribution System	.....	.....	.....	1,916,873
General	.....	.....	.....	44,539,457
Estimated Remaining Gas Content in M c. f.	640,846,998	.....	.....	.....
Quantity of the Estimated Content in M c. f. Expected to be Handled by the Major Section Transmission System	.....	627,389,211	.....	.....
Quantity of the Estimated Content in M c. f. Expected to be Handled by the Minor Section Transmission System	.....	.....	84,591,804	.....

Sales, in M c. f., 12-month Period Ending August 31, 1924—Continued

	Production system	Transmission system, major	Transmission system, minor	Kentucky distribution system
Quantity of the Estimated Content in M c. f. Expected to Pass through the Kentucky Distribution Plants	.....	.....	.....	27,556,421
[fol. 1436] Annual Production in M c. f.	34,431,559	.....	.....	.....
Quantity of Annual Production in M c. f. Expected to be Handled by Major Section Transmission System	.....	33,708,496	.....	.....
Quantity of Annual Production in M c. f. Expected to be Handled by Minor Section Transmission System	.....	.....	4,544,966	.....
Quantity of Annual Production in M c. f. Expected to Pass Through Kentucky Distribution Plants	.....	.....	.....	1,480,557

Warfield Natural Gas Company
(Including United Fuel Gas Company and Cabin Creek Gas Company)
Analysis of Expenses and Return on Investment
Based on Expenses and Sales 12 Month Period Ending August 31, 1924
Valuation Basis - Estimated Cost of Reproduction New Less Observed Deterioration
as of December 31, 1923 with Net Additions for 8 Months Ending August 31, 1924 Added

Major Section Distribution

	Divisors in M.c.f.		Rate of Return 8% Amount	Rate of Return 8% Rate Per M.	Rate of Return 10% Amount	Rate of Return 10% Rate Per M.
Expense						
Production	Total Sales	44,539,457	$2,405,601	$ .05401	$2,405,601	$ .05401
Transmission	Total Sales Less Field Sales	43,617,881	618,627	.01418	618,627	.01418
				$ .06819		$ .06819
Depreciation						
Production System	Total Sales	44,539,457	$ 209,783	$ .00471	$ 209,783	$ .00471
Transmission System	Total Sales Less Field Sales	43,617,881	569,600	.01306	569,600	.01306
General Property (Less General in Dist.)	Total Sales	44,539,457	20,393	.00046	20,393	.00046
				$ .01823		$ .01823
Return						
Production System	Total Sales	44,539,457	$3,695,548	$ .08297	$4,619,435	$ .10372
Transmission System	Total Sales Less Field Sales	43,617,881	1,115,363	.02557	1,394,204	.03198
General Property (Less General in Dist.)	Total Sales	44,539,457	43,748	.00098	54,685	.00123
Working Capital - Production	Total Sales	44,539,457	53,098	.00119	66,373	.00149
Working Capital - Transmission	Total Sales Less Field Sales	43,617,881	13,655	.00031	17,089	.00039
				$ .11103		$ .13879
Depletion						
Proven Acreage	Total Sales	44,539,457	$1,721,578	$ .03865	$1,721,578	$ .03865
Unproven Acreage	Total Sales	44,539,457	297,933	.00669	297,933	.00669
Wells	Total Sales	44,539,457	1,486,066	.03337	1,486,066	.03337
				$ .07871		$ .07871
Amortization						
Production System (Plant not Depletable)	Total Sales	44,539,457	$ 187,652	$ .00421	$ 187,652	$ .00421
Transmission System	Total Sales Less Field Sales	43,617,881	660,687	.01515	660,687	.01515
General Property (Less General in Dist.)	Total Sales	44,539,457	14,461	.00032	14,461	.00032
				$ .01968		$ .01968
Total City Gate Rate				$0.29583		$0.32380
Distribution						
Expenses	Sales thru Dist. Plants	1,916,873	$ 77,935	$ .04065	$ 77,935	$ .04065
Depreciation - Distribution Property	Sales thru Dist. Plants	1,916,873	18,798	.00981	18,798	.00981
Depreciation - General Property	Sales thru Dist. Plants	1,916,873	339	.00017	339	.00017
Return - Distribution Property	Sales thru Dist. Plants	1,916,873	45,146	.02355	56,433	.02944
Return - General Property	Sales thru Dist. Plants	1,916,873	333	.00013	291	.00015
Return - Working Capital	Sales thru Dist. Plants	1,916,873	1,394	.00073	1,743	.00091
Amortization - Distribution Property	Sales thru Dist. Plants	1,916,873	27,040	.01411	27,040	.01411
Amortization - General Property	Sales thru Dist. Plants	1,916,873	141	.00007	141	.00007
				$ .08931		$ .09531
Total Distribution Rate				$0.38504		$0.41891

Warfield Natural Gas Company

(Including United Fuel Gas Company and Cabin Creek Gas Company)

Analysis of Expenses and Return on Investment
Based on Expenses and Sales 12 Month Period Ending August 31, 1924
Valuation Basis - Estimated Cost of Reproduction New Less Observed Deterioration
as of December 31, 1923 with Net Additions for 8 Months ending August 31, 1924 Added

Minor Section Distribution

	Divisors in M.c.f.		Rate of Return 8%		Rate of Return 10%	
			Amount	Rate Per M.	Amount	Rate Per M.
Expense						
Purchased Gas	Sales in Minor Section	(A) 5,882,541		$0.29583		$0.32360
Transmission	Sales in Minor Section	(A) 5,882,541	$ 89,897	.01528	$ 89,897	.01528
Depreciation						
Transmission System	Sales in Minor Section	(A) 5,882,541	51,556	.00876	51,556	.00876
Return						
Transmission System	Sales in Minor Section	(A) 5,882,541	106,949	.01818	133,686	.03273
Working Capital	Sales in Minor Section	(A) 5,882,541	1,984	.00034	2,480	.00043
Amortization						
Transmission System	Sales in Minor Section	(A) 5,882,541	68,057	.01157	68,057	.01157
Total City Gate Rate				$0.34996		$0.38236
Distribution						
Expense	Sales in Dist. Plants	1,916,873	$ 77,925	$ .04065	$ 77,925	$ .04065
Depreciation - Distribution Property	Sales in Dist. Plants	1,916,873	18,798	.00981	18,798	.00981
Depreciation - General Property	Sales in Dist. Plants	1,916,873	329	.00017	329	.00017
Return - Distribution Property	Sales in Dist. Plants	1,916,873	45,148	.03355	56,433	.03944
Return - General Property	Sales in Dist. Plants	1,916,873	233	.00012	291	.00015
Return - Working Capital	Sales in Dist. Plants	1,916,873	1,394	.00073	1,742	.00091
Amortization - Distribution Property	Sales in Dist. Plants	1,916,873	27,040	.01411	27,040	.01411
Amortization - General Property	Sales in Dist. Plants	1,916,873	141	.00007	141	.00007
				$ .08931		$ .09531
Total Distribution Rate				$0.43917		$0.47767

(A) Sales on lines G, F and U to distribution plants, plus sales direct from main lines.

[fol. 1437] UEBELACKER EXHIBIT No. 4

Warfield Natural Gas Company (including United Fuel Gas Co. and Cabin Creek Gas Co.)

Kentucky Distribution

Analysis of Expense and Return on Investment per M C. F. Based on Expenses and Sales for 12-month Period Ending August 31, 1924

Valuation Basis, Estimated Cost of Reproduction New Less Observed Deterioration as of December 31, 1923, with Net Additions for 8 Months Ending August 31, 1924, Added

(Here follow side folio pages 1438 and 1439)

Allocation of Transmission System Expense—Continued

Allocation of Transmission Line Expense on Basis of Miles of Main, i. e.:

Section	Miles of main	% of total	Trans. line expense
Major (B)	458.1	84.83%	$147,596.30
Minor (C)	81.9	15.17%	26,394.39
	540.0	100.00%	$171,990.69

Allocation of Balance or Pumping, etc., Expenses on Basis of Sales, i. e.:

Section	Total sales (M c. f.)	Less sales through field lines (M c. f.)	Sales through trans. line (M c. f.)	% of total	Balance or pumping, etc., expense
Major (B)	44,539,457	921,578	43,617,881 (D)	88.12%	$471,030.95
Minor (C)	3,882,341	.....	5,882,541	11.88%	63,502.58
					$534,533.53

Total Expense Applicable to Each Section

Major Section (B)	$618,627.25
Minor " (C)	89,896.97
	$708,524.22

NOTE—(A) Transmission Line Expense

Operating Transmission Lines	$38,153.67
Trans. Line Tools & Supplies	3,587.99
Changing Construction	14,041.47
Transmission Line Maintenance	63,811.58
[fol. 1442]	$119,594.71

NOTE—(B) Major Section is that part of the Transmission System which is in West Virginia and the eastern part of Kentucky south from the Junction of Big Sandy with the Ohio River.

(C) Minor Section is that part of the Transmission System extending Northwest from the West Virginia Border at the Junction of the Big Sandy with Ohio River.

(D) Represents Total Sales less Field Sales as well as quantity rehandled and sold in Minor Sections.

[Fol. 1443] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Details of Operating Expenses for 12 month Period Ended August 31, 1924

Production Expense	United Fuel Gas Company	Warfield Natural Gas Company	Cabin Creek Gas Company	Total combined	Eliminations	Net operating expenses
Operation:						
Superintendence	$5,340.46	$312.44	$31.99	$6,284.89	.....	$6,284.89
Operating Wells and Lines	99,508.83	5,085.09	2,382.87	107,004.79	$6,302.51 (A)	101,402.28
Production Tools and Supplies	9,993.69	1.65	32.42	10,027.76	.....	10,027.76
Field Measuring Stations	17,627.26	599.89	291.12	18,419.27	.....	18,419.27
Leasehold Expense	43,722.90	2,219.83	.....	45,942.73	.....	45,942.73
Rentals on Unoperated Leases	603,116.91	44,423.68	.....	647,539.59	.....	647,539.59
Well Royalties	183,992.17	5,095.57	3,431.99	192,779.73	.....	192,779.73
Cancelled and Surrendered Leases	117.79	3.88	.....	121.67	.....	121.67
Miscellaneous and Insurance	20,490.00	1,093.14	54.88	22,211.02	.....	22,211.02
Maintenance:						
Changing Construction	12,622.29	80.79	289.45	12,992.54	12,992.54 (B)	.....
Repairs to Wells	101,783.75	14,179.10	264.73	116,227.58	.....	116,227.58
Repairs to Field Lines	24,279.20	1,808.78	741.55	26,789.63	.....	26,789.63
Field Measuring Stations	3,964.41	175.62	63.93	4,203.96	.....	4,203.96
Total	$1,126,279.96	$77,430.37	$7,894.93	$1,211,205.26	$19,295.05	$1,192,010.21
Gas Purchased	938,398.24	1,046,401.97	.....	1,984,710.21	1,313,289.01 (C)	671,421.20
Total Production	$2,064,589.20	$1,123,832.34	$7,894.93	$3,195,915.47	$1,332,484.06	$1,863,431.41

Transmission Expenses

Operation:						
Superintendence	$4,808.81	$38.32	.....	$4,847.13	.....	$4,847.13
Transmission Lines	34,423.78	3,731.89	.....	38,153.67	.....	38,153.67
Transmission Tools and Supplies	3,519.71	68.28	.....	3,587.99	.....	3,587.99
Compressing Stations	351,800.72	7,004.15	$7,620.65	367,484.52	$132,301.49 (A)	235,183.03
Measuring Stations	8,591.80	272.95	.....	8,864.75	.....	8,864.75
Miscellaneous and Insurance	8,452.32	.....	.....	8,452.32	.....	8,452.32
Maintenance:						
Changing Construction	10,936.12	3,105.35	.....	14,041.47	.....	14,041.47
Transmission Lines	58,424.11	5,387.47	.....	63,811.58	.....	63,811.58
Compressing Stations	102,557.75	3,798.54	1,950.80	108,307.09	.....	108,307.09
Measuring Stations	1,554.25	209.85	.....	1,764.10	.....	1,764.10
Total Transmission	$585,127.37	$24,606.80	$9,580.45	$619,314.62	$132,301.49	$487,013.13

[fol. 1444] Distribution Expenses

Operation:						
Superintendence	$3,119.84	$980.83	.....	$4,100.67	.....	$4,100.67
Operating Lines	51,791.57	8,721.11	.....	60,512.68	.....	60,512.68
Connecting and Disconnecting Meters	28,500.24	6,913.83	.....	35,414.07	.....	35,414.07
Electrolysis	13.75	.....	.....	13.75	.....	13.75
Shop Expense	9,526.57	2,447.84	.....	11,974.41	.....	11,974.41
Miscellaneous and Insurance	2,443.12	156.30	.....	2,599.42	.....	2,599.42
Maintenance:						
Changing Construction	19,812.40	7,471.97	.....	27,284.37	.....	27,284.37
Lines and Regulators	15,634.96	5,355.65	.....	20,990.61	.....	20,990.61
Meters and House Regulators	29,891.62	5,408.63	.....	35,300.25	.....	35,300.25
Services	21,143.16	4,251.23	.....	25,394.39	.....	25,394.39

NOTE.—(A) Gas used in own operations. (B) Considered in Depletion of Wells. (C) Inter-company purchases.

Details of Operating Expenses for 12-month Period Ended August 31, 1924—Continued

Commercial Expense	United Fuel Gas Company	Warfield Natural Gas Company	Cabin Creek Gas Company	Total combined	Eliminations	Net operating expenses
Reading Meters	19,203.20	3,708.52	.....	22,911.72	.....	22,911.72
Salaries of Office Force and Collectors	74,567.90	13,860.03	.....	88,427.93	.....	88,427.93
Rents, Heat, Light, Telephone Rentals and Tolls	7,847.35	1,576.21	.....	9,424.16	$1,510.35 (A)	7,913.81
Stationery and Supplies	6,497.60	1,160.52	.....	7,658.12	.....	7,658.12
Miscellaneous and Insurance	138.14	83.78	.....	221.92	.....	221.92
Total Distribution	$250,132.02	$92,686.45	.....	$352,228.47	$1,510.35	$350,718.12
General Expense:						
Salaries and Expenses of General Officers	$78,191.88	$4,805.65	$1,590.00	$84,587.53	.....	$84,587.53
General Office Expense	70,289.41	4,912.88	765.78	76,059.07	.....	76,059.07
Private Telegraph and Telephone Lines	15,359.12	1,651.25	.....	17,050.37	.....	17,050.37
Legal Expense	64,239.25	4,793.21	.....	69,032.46	.....	69,032.46
Insurance	6,966.86	518.05	186.32	7,671.23	.....	7,671.23
Damages	259.48	124.57	.....	384.05	.....	384.05
Relief and Annuities	9,613.80	53.50	41.52	9,708.82	.....	9,708.82
Taxes	483,972.48	15,542.00	5,041.86	504,556.34	.....	504,556.34
Miscellaneous	141,106.09	8,364.37	1,174.38	150,641.84	.....	150,641.84
Outside operations	3,963.47	1,055.98	.....	5,019.45	.....	5,019.45
Bad Debts	568.44	131.05	.....	729.49	.....	729.49
Gas Used by Company	138,584.84*	1,429.51*	.....	140,014.35*	$140,014.35*	.....
Cleaning out Tools	2,939.47*	.....	.....	2,939.47*	.....	2,939.47*
Company Teaming	2,212.50	.....	.....	2,212.50	.....	2,212.50
Rents and Repairs to Buildings	2,059.96	.....	1,110.87	3,170.83	.....	3,170.83
Machine and Blacksmith Shop	1,597.86	149.99	.....	1,747.85	.....	1,747.85
Total General Expense	$780,014.25	$40,772.99	$9,830.73	$780,618.01	$140,014.35*	$920,632.36
Oil Expense	.....	.....	$13,439.32	$13,439.32	.....	$13,439.32
Gasoline Expense	.....	.....	$18,808.04	$18,808.04	.....	$18,808.04

NOTE.—(A) Gas used in own operations. (*Red in copy.)

[fol. 1445] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Rates and Amount of Depreciation on Depreciable Physical Property Allocated by Systems and Accounts

	Production System:	Valuation	Rate	Amount
Acct. 208	Gas Well Structures (Deter. Value)	$44,520	10%	$4,452
209	Field Meas. Station Struct.	4,919	5	246
210	Other Production System Struct.	111,759	5	5,588
213	Field Line Construction (Deprec. Value)	936,522	5	46,826
214	Field Line Equipment (Deprec. Value)	2,045,695	5	102,285
215	Field Meas. Sta. Equipment	40,637	4	1,625
216	Drilling and Cleaning Equipment (Deter. Value)	142,822	15	21,423
217	Other Production System Equipment	33,035	5	1,652
	Net Additions	168,818	5.48	9,251
	Total			$193,348
	Overheads (General)			16,435
	Total			$209,783
	Transmission System (Major Section):			
Acct. 221	Compressing Station Struct.	$271,494	4%	$10,860
222	Transmission System Meas. Sta. Struct.	2,752	4	110
223	Other Transmission System Struct.	209,974	4	8,399
224	Compressing Station Equipment	3,241,759	5	162,088
225	Transmission System Meas. Sta. Equipment	21,120	4	845
226	Transmission System Equipment	8,360,169	4	334,407
227	Other Transmission System Equipment	29,439	4	1,177
	Net Additions	—1,593	4.26	—68
	Total			$517,818
	Overheads (General)			51,782
	Total			$569,600
[fol. 1446]	Transmission System (Minor Section):			
Acct. 222	Transmission System Meas. Sta. Struct.	$424	4%	$17
223	Other Transmission System Struct.	2,637	4	105
225	Transmission System Meas. Sta. Equipment	1,961	4	78
226	Transmission System Equipment	1,160,987	4	46,427
227	Other Transmission System Equipment	5,706	4	232
	Net Additions	231	4.26	10
	Total			$46,869
	Overheads (General)			4,687
	Total			$51,556

	Distribution System—Kentucky:	Valuation	Rate	Amount
Acct. 231	District Regulator Struct	$6,294	4%	$252
232	Other Distribution System Struct	6,237	3	187
233	Gas Receivers and District Regulators	11,037	3	331
234	Distribution Line Equipment	250,771	3	7,523
235	Service Line Equipment	90,530	3	2,716
236	Meters	98,795	3	2,964
237	Meter Installations	40,907	5	2,045
239	Other Distribution System Equipment	2,781	3	83
	Net Additions	28,216	3.17	894
	Total			$16,935
	Overheads (General)			1,863
	Total			$18,798

[fol. 1447]

	General Property Applicable to Kentucky Distribution System:			
Acct. 249	General Office Equipment	$2,420	5%	$121
250	General Garage Equipment	710	25	178
	Total			$299
	Overheads (General)			30
	Total			$329

	General Property			
Acct. 247	General Office Structures	$91,690	2%	$1,834
249	General Office Equipment	42,493	5	2,125
251	General Shop Equipment	18,055	10	1,806
252	General Stable Equipment	10,799	10	1,080
255	General Tel. and Tel. Equipment	204,214	5	10,211
256	General Tools and Implements	7,295	20	1,459
	Net Additions	495	4.94	24
	Total			$18,539
	Overheads (General)			1,854
	Total			$20,393

[fol. 1448] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Return on Valuation at Rates of 8 and 10 Per Cent on Estimated Cost of Reproduction New Less Observed Deterioration

	Valuation	Amount of return	
		At 8%	At 10%
Production System	$46,194,845	$3,695,548	$4,619,435
Transmission System:			
Major Section	13,942,039	1,115,363	1,394,204
Minor Section	1,336,857	106,949	133,686
Distribution System (Kentucky)	564,331	45,146	56,433
General Property:			
Applicable to Distribution (Kentucky)	2,908	233	291
Balance	546,851	43,748	54,685
Working Capital:			
Production System	663,731	53,098	66,373
Transmission System:			
Major Section	170,686	13,655	17,069
Minor Section	24,803	1,984	2,480
Distribution (Kentucky)	17,419	1,394	1,742

[fol. 1449] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company)

Summary of Valuation

	Estimated cost of reproduction new less observed deterioration
Production System	$43,764,674
Transmission System	
Major Section	10,796,769
Minor Section	1,035,728
Distribution System (Kentucky)	454,662
General Property Applicable to Distribution (Kentucky)	2,302
Balance	444,908
Total	$56,499,073
Overheads (General)	6,088,258
Total	$62,587,331

[fol. 1450] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company)

Allocation of Valuation—Production System

Estimated Cost of Reproduction New Less Deterioration

Account number	Account	Total
204	Land	.....
205	Leaseholds	$35,319,617
207	Natural Gas Rights	
206	Rights of Way	111,454
208	Gas Well Structures	44,529
209	Field Measuring Station Structures	4,379
210	Other Production System Structures	90,931
211	Gas Well Construction	2,669,917
212	Gas Well Equipment	1,470,733
213	Field Line Construction	995,682
214	Field Line Equipment	2,126,703
215	Field Measuring Station Equipment	34,541
216	Drilling and Cleaning Equipment	142,822
217	Other Production System Equipment	28,079
	Net Additions	168,818
	Total	$43,238,196
	Incomplete Construction	526,478
	Total	$43,764,674
	Overheads (General)	2,429,671
	Total Production System	$46,194,345

[fol. 1451] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company)

Allocation of Valuation

Transmission System, Based upon Geographical Location in Districts as Indicated

Estimated Cost of Reproduction New Less Deterioration

Account number	Account	Total	Ohio	Northwest Kentucky (A)	Minor section, Ohio and N.W. Kentucky	Balance or major section
218	Land	$3,533	.....	.....	.....	$3,533
219	Leaseholds	.....	.....	.....	.....	.....
220	Rights of Way	159,713	$49,784	$11,253	$61,037	98,676
221	Compressing Station Structures	230,182	.....	.....	.....	230,182
222	Transmission System Measuring Station Structures	2,749	237	113	350	2,399
223	Other Transmission System Structures	187,895	1,996	197	2,193	185,702
224	Compressing Station Equipment	2,622,010	.....	.....	.....	2,622,010
225	Transmission System Measuring Station Equipment	19,619	1,024	643	1,667	17,952
226	Transmission System Equipment	7,902,319	288,688	674,682	963,370	6,938,940
227	Other Transmission System Equipment	29,950	2,836	2,091	4,927	25,023
	Net Additions	—1,362	96	135	231	—1,593
	Total	$11,156,599	$344,661	$689,114	$1,033,775	$10,122,824
	Incomplete Construction	675,928	1,953	.....	1,953	673,975
	Total	$11,832,527	$346,614	$689,114	$1,035,728	$10,796,799
	Overheads (General)	3,446,369	99,768	201,361	301,129	3,145,240
	Total Transmission	$15,278,896	$446,382	$890,475	$1,336,857	$13,942,039

NOTE.—(A) Lines and other property located in that section of system in Kentucky extending northwest from the West Virginia border at Junction of Big Sandy with Ohio River.

[fol. 1452] Warfield Natural Gas Company

Valuation of Distribution System Property

Account number	Account	Estimated cost of reproduction new less observed deterioration
228	Land	$3,186
230	Rights of Way	538
231	District Regulator Structures	5,482
232	Other Distribution Structures	4,978
233	Gas Receivers and District Regulators	9,381
234	Distribution Line Equipment	200,617
235	Service Line Equipment	76,950
236	Meters	82,276
237	Meter Installations	34,771
239	Other Distribution System Equipment	2,364
	Net Additions	28,216
	Total	448,759
	Incomplete Construction	5,903
	Total	$454,662
	Overheads (General)	109,669
		$564,331

[fol. 1453] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company)

Allocation of Valuation—General Property

Estimated Cost of Reproduction New Less Deterioration

Account number	Account	Total	Distribution			Balance of general
			Ohio	Kentucky	West Virginia	
244	General Office Land	$174,500	....	....	$65,442	$104,434 2,375 (A) 2,249
245	Other General Land	31,653	....	....	....	31,653
246	Leaseholds	....	....	....	....	....
247	General Office Structures	128,725	....	....	43,958	81,830 2,937 (A)
248	Other General Structures	....	....	....	....	....
249	General Office Equipment	45,504	$2,328	$1,805	8,421	15,162 526 (A) 17,262
250	General Store Equipment	....	....	....	....	....
251	General Shop Equipment	14,979	....	....	....	14,979
252	General Stable Equipment	9,946	....	....	....	9,946
253	General Garage Equipment	22,537	619	497	21,421	....
254	General Laboratory Equipment	....	....	....	....	....
255	General Telephone & Telegraph Equipment	161,151	....	....	....	161,151
256	General Tools & Implements	5,747	....	....	....	5,747
257	Other General Equipment	....	....	....	....	....
	Net Additions	495	....	....	....	495
	Total	$595,237	$2,947	$2,302	$139,242	$450,746

Account number	Account	Total	Distribution			Balance of general
			Ohio	Kentucky	West Virginia	
	Overheads (General)	134,895	759	605	30,316	103,214
	Total	$730,132	$3,706	$2,908	$169,558	$553,960

	Total balance, excluding Virginian Gas & Oil Company
NOTE.—(A) Based upon floor space of offices and equipment used by Virginian Gasoline and Oil Company	$444,908
Overheads	101,943
Total	$546,851

[fol. 1054] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Depletion of Proven and Unproven Acreage and Wells

	Valuation	Amount of annual depletion
Proven Acreage	$32,042,350	.....
This amount divided by the estimated remaining gas content of 640,846,998 M c. f. results in a unit per M c. f. of $.05. This unit when multiplied by the annual production of 34,431,559 M c. f. gives the amount of annual amortization	.....	$1,721,578
Unproven Acreage	3,277,267	.....
It is indicated from the Company's records that the rate of turnover is once every eleven years therefore 1/11 of this amount is depleted each year	.....	297,933
Wells	27,656,980	.....
Dividing this amount by the estimated gas content of 640,846,998 M c. f. results in a unit per M c. f. of $.04316 which when multiplied by the annual production of 34,431,559 M c. f. gives the amount of annual depletion	.....	1,486,066

[fol. 1455] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Annual Amount of Amortization Based on Deteriorated Values

	Deteriorated value	Annual amount of amortization
Production System	$3,483,106	.....
This amount is divided by the estimated recoverable gas content of 640,846,998 M c. f. resulting in a unit per M c. f. of $0.09545 which when multiplied by the annual production of 34,431,559 M c. f., amounts to	.....	$187,652
Transmission System—Major Section	12,294,841	.....
This amount is divided by the proportion of the estimated recoverable gas content which is expected to pass through the Major Section Transmis-		

Annual Amount of Amortization Based on Deteriorated Values—Continued

	value Deteriorated	of amortization Annual amount
sion System (627,389,211 M c. f. (A)) resulting in a unit per M c. f. of $.01960. This unit is then multiplied by the proportion of the annual production expected to pass through the Major Section Transmission System (33,708,496 M c. f.) which amounts to		660.687
Transmission System—Minor Section	1,260,690	
This amount is divided by the proportion of the estimated recoverable gas content which is expected to pass through the Minor Section Transmission System (84,591,804 M c. f. (B)) resulting in a unit per M c. f. of $0.014974. This unit is then multiplied by the proportion of the annual production expected to pass through Minor Section Transmission System (4,544,966 M c. f.) resulting in an [fol. 1456] amount of		68.057
Distribution System (Kentucky)	502,952	
This amount divided by the proportion of the estimated recoverable gas content expected to be sold through the Distribution Plants (27,558,421 M c. f. (C)) results in a unit per M c. f. of $0.01825 which when multiplied by the proportion of annual production that will pass through the Distribution Plants (1,480,557 M c. f.) gives the amount of annual amortization		27.020
General Property Applicable to Distribution System (Kentucky only)	2,617	
This amount is divided by the proportion of the estimated recoverable gas content expected to be sold through the Distribution Plants (27,556,421 M c. f. (C)) and results in a unit per M c. f. of $0.000095. This unit when multiplied by the proportion of annual production expected to be sold through the Distribution Plants (1,480,557 M c. f.) results in an amount of		141

Annual Amount of Amortization Based on Deteriorated Values—Continued

	Deteriorated value	Annual amount of amortization
General	266,813	.....
This amount is divided by the total estimated recoverable gas content of 640,846,998 M c. f. resulting in a unit per M c. f. of $.00042. This unit when multiplied by the annual production of 34,431,559 M c. f. results in an amount of	.....	14,461

NOTE.—(A) Based upon the ratio of the quantity of gas handled through the Transmission System to the total gas sold.

[fol. 1457]

(B) Based upon the ratio of the quantity of gas sold from the Minor Section Transmission System to the total gas sold.

(C) Based upon the ratio of the quantity of gas sold through Distribution Plants in Kentucky to total gas sold.

[fol. 1458] Warfield Natural Gas Company (Including United Fuel Gas Company and Cabin Creek Gas Company) Details of Amortization of Production System Physical Property

	Production System	Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
Acct.	204 Land	.....	.....	.....
	205 Leaseholds	.....	.....	.....
	207 Natural Gas Rights	.....	.....	.....
	206 Rights of Way	$111,454	.....	$111,454
	208 Gas Well Structures	44,520	$4,452	40,068
	209 Field Measuring Station Structures	4,379	.....	4,379
	210 Other Production System Structures	90,931	407	90,524
	211 Gas Well Construction	2,666,947	Depletable	.....
	212 Gas Well Equipment	1,479,733	Depletable	.....
	213 Field Line Construction	749,218(A)	.....	749,218
	214 Field Line Equipment	1,636,556(A)	163,676	1,472,880
	215 Field Measuring Station Equipment	34,541	2,929	31,612
	216 Drilling & Cleaning Equipment	142,822	14,283	128,539
	217 Other Production System Equipment	28,072	1,593	26,479
	Net Additions	168,818	16,882	151,936
	Total	.....	.....	$2,807,089
	Overheads (General)	.....	.....	686,017
	Total to be Amortized	.....	.....	$3,493,106

(A) Gathering lines only

Details of Amortization of Transmission System, Major Section

	Transmission System			
Acct. 218	Land	$3,533	$3,533	.....
219	Leaseholds	.....	.....	.....
220	Rights of Way	98,676	.....	$98,676
221	Compressing Station Structures	230,182	.....	230,182
222	Transmission System Meas. Sta. Structures	2,399	.....	2,399
223	Other Trans. Sys. Structures	185,702	.....	185,702
224	Compressing Station Equipment	2,622,010	232,509	2,389,501
225	Transmission System Meas. Sta. Equipment	17,951	1,521	16,430
226	Transmission System Equipment	6,938,940	378,819	6,560,121
227	Other Transmission System Equipment	25,023	1,440	23,583
	Total			$9,506,594
	Overheads, General			2,788,247
	Total			$12,294,841

[fol 1460] Details of Amortization of Transmission System, Minor Section

Acct		Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
Acct	218 Land			
	219 Leaseholds			
	220 Rights of Way	$61,037		$61,037
	221 Compressing Station Structures			
	222 Transmission System Meas Sta Structures	424		424
	223 Other Trans System Structures	2,193		2,193
	224 Compressing Station Equipment			
	225 Transmission System Meas Sta Equipment	1,667	$142	1,525
	226 Transmission System Equipment	963,370	52,022	911,348
	227 Other Transmission System Equipment	4,927	251	4,676
	Net Additions	231	23	208
	Total			$981,411
	Overheads, General			285,279
	Total			$1,266,690

[fol 1461] Details of Amortization of Distribution Property in Kentucky

Distribution System

Acct. 228	Land	$3,186	$3,186	.....
229	Leaseholds	.....	.....	.....
230	Rights of Way	538	.....	$538
231	District Regulator Structures	5,482	.....	5,482
232	Other Distribution Structures	4,978	.....	4,978
233	Gas Receivers and Distribution Regulators	9,381	675	8,706
234	Distribution Line Equipment	200,617	10,231	190,386
235	Service Line Equipment	76,950	3,386	73,564
236	Meters	82,276	12,259	70,017
237	Meter Installation	34,771	9,910	24,861
238	House Regulators	.....	.....	.....
239	Other Distribution System Equipment	2,364	1,347	1,017
	Net Additions	28,216	2,822	25,394
	Total			$404,943
	Overheads, General			98,009
	Total			$502,952

[fol. 1462] Details of Amortization of General Property

	General Property Applicable to Kentucky Distribution Systems	Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
Acct. 249	General Office Equipment	$1,805	$181	$1,624
253	General Garage Equipment	497	50	447
	Total			$2,071
	Overheads (General)			546
	Total			$2,617
	General:			
Acct. 249	General Office Equipment	$41,184	$11,820(B)	$29,364
251	General Shop Equipment	13,487	.....	13,487
252	General Stable Equipment	8,941	.....	8,941
253	General Garage Equipment	20,340	20,340(B)	.....
255	General Tel. & Tel. Equipment	155,844	.....	155,844
256	General Tools & Implements	5,186	.....	5,186
	Net Additions	495	50	445
	Total			$213,267
	Overheads (General)			53,546
	Total			$266,813

(B) Additional Salvable Value

[fol. 1463] Warfield Natural Gas Company (Including United Fuel Gas Co. and Cabin Creek Gas Co.)

Divisors Used in Computing Unit Cost per M c. f.

Sales, in M c. f., 12-month Period Ending August 31, 1924

	Production system	Transmission system, major	Transmission system, minor	Kentucky distribution system
Wholesale	28,849,924	28,849,924	1,302,945	.....
Distribution Plants	13,191,821	13,191,821	3,311,573	1,916,873
Field Line Sales	865,174	.....	.....	.....
Carbon Black Div'n	56,402	.....	.....	.....
Main Line Sales	1,576,136	1,576,136	1,268,023	.....
Total	44,539,457	43,617,881	5,882,541	1,916,873
Per cents	.....	97.9%	13.2%	4.3%

Divisors for Depreciation, Return and Amortization of General Property are:

General applicable to Kentucky Distribution System				1,916,873
General				44,539,457
Estimated Remaining Gas Content in M c. f.	640,846,998	.....	.....	.....
Quantity of the Estimated Content in M c. f. Expected to be Handled by the Major Section Transmission System	.....	627,389,211	.....	.....
Quantity of the Estimated Content in M c. f. Expected to be Handled by the Minor Section Transmission System	.....	.....	84,591,804	.....

Sales, in M c. f., 12-month Period Ending August 31, 1924—Contd.

	Production system	Transmission system, major	Transmission system, minor	Kentucky distribution system
Quantity of the Estimated Content in M c. f. Expected to Pass through the Kentucky Distribution Plants	.....	.....	.....	27,556,421
[fol. 1464] Annual Production in M c. f.	34,431,559	.....	.....	.....
Quantity of Annual Production in M c. f. Expected to be Handled by Major Section Transmission System	.....	33,708,496	.....	.....
Quantity of Annual Production in M c. f. Expected to be Handled by Minor Section Transmission System	.....	.....	4,544,966	.....
Quantity of Annual Production in M c. f. Expected to Pass Through Kentucky Distribution Plants	.....	.....	.....	1,480,557

Warfield

Analysis of Expe
Based on Expenses and Sale
Valuation Basis - R
as of December 31, 1923 with Net Ad

	Divisors
Expense	
Production & Purchase	Total Sales
Transmission	Total Sales Less Fie
Depreciation	
Production System	Total Sales
Transmission System	Total Sales Less Fie
General Property (Less General in Dist.)	Total Sales
Return	
Production System	Total Sales
Transmission System	Total Sales Less Fie
General Property	Total Sales
Working Capital - Production	Total Sales
Working Capital - Transmission	Total Sales Less Fie
Depletion	
Proven and Probable Acreage	Total Sales
Wells	Total Sales
Amortization	
Production System (Plant not Depletable)	Total Sales
Transmission System	Total Sales Less Fie
General Property (Less General in Dist.)	Total Sales
Total City Gate Rate	
Distribution	
Expenses	Sales thru Dist. Pla
Depreciation - Distribution Property	Sales thru Dist. Pla
Depreciation - General Property	Sales thru Dist. Pla
Return - Distribution Property	Sales thru Dist. Pla
Return - General Property	Sales thru Dist. Pla
Return - Working Capital	Sales thru Dist. Pla
Amortization - Distribution Property	Sales thru Dist. Pla
Amortization - General Property	Sales thru Dist. Pla
Total Distribution Rate	

Warfield Natural Gas Company

Analysis of Expenses and Return on Investment
Based on Expenses and Sales 12 Month Period Ending August 31, 1924
Valuation Basis - Estimated Cost of Reproduction New
ember 31, 1923 with Net Additions for 8 Months Ending August 31, 1924 Added

Note: Showing effect of Company retaining its own production and gas purchased by it in Kentucky and buying the balance necessary to fulfill its sales from the United Fuel Gas Co.

	Divisors in M.c.f.		Rate of Return 6% Amount	Rate of Return 6% Rate Per M.	Rate of Return 10% Amount	Rate of Return 10% Rate Per M.
	Total Sales	3,282,159	$675,291	$0.20701	$724,816	$0.22219
	Total Sales Less Field Sales	3,244,671	29,687	.00914	29,687	.00914
				$ .21615		$ .23133
	Total Sales	3,282,159	$ 21,178	$ .00649	$ 21,178	$ .00649
	Total Sales Less Field Sales	3,244,671	64,982	.02002	64,982	.02002
.)	Total Sales	3,282,159	1,403	.00043	1,403	.00043
				$ .02694		$ .02694
	Total Sales	3,282,159	$131,929	$ .04044	$184,911	$ .05656
	Total Sales Less Field Sales	3,244,671	149,376	.04604	186,721	.05755
	Total Sales	3,282,159	2,573	.00078	3,217	.00099
	Total Sales	3,282,159	12,078	.00370	15,095	.00463
	Total Sales Less Field Sales	3,244,671	830	.00026	863	.00026
				$ .09113		$ .11399
	Total Sales	3,282,159	$ 27,645	$ .00847	$ 27,645	$ .00847
	Total Sales	3,282,159	64,072	.01964	64,072	.01964
				$ .02811		$ .02811
e)	Total Sales	3,282,159	$ 19,815	$ .00607	$ 19,815	$ .00607
	Total Sales Less Field Sales	3,244,671	80,678	.02487	80,678	.02487
.)	Total Sales	3,282,159	1,070	.00033	1,070	.00033
				$ .03127		$ .03127
				$0.39358		$0.47187
	Sales thru Dist. Plants	1,916,873	$ 77,925	$ .04066	$ 77,925	$ .04066
	Sales thru Dist. Plants	1,916,873	18,748	.00981	18,748	.00981
	Sales thru Dist. Plants	1,916,873	339	.00017	339	.00017
	Sales thru Dist. Plants	1,916,873	53,008	.02766	80,260	.04187
	Sales thru Dist. Plants	1,916,873	308	.00016	383	.00020
	Sales thru Dist. Plants	1,916,873	1,794	.00093	1,748	.00091
	Sales thru Dist. Plants	1,916,873	27,040	.01411	27,040	.01411
	Sales thru Dist. Plants	1,916,873	141	.00007	141	.00007
				$0.09210		$0.10949
				$0.48568		$0.58136

1466

[fol. 1465] UEBELACKER EXHIBIT No. 5

Warfield Natural Gas Company

Analysis of Expenses and Return on Investment Based on Expenses and Sales for 12-month Period Ending August 31, 1924

Valuation Basis, Estimated Cost of Reproduction New as of December 31, 1923, with Net Additions for 8 Months Ending August 31, 1924, Added

NOTE.—This Exhibit shows effect of Company retaining its own production and gas purchased by it in Kentucky and buying the balance necessary to fulfill its sales from the United Fuel Gas Co.

(Here follows side folio page 1466)

Warfield Natural Gas Company

Apportionment of General Expenses to Systems for 12-month Period Ending August 31, 1924

Operating Expenses	Net direct expenses	Proportion of general expenses	Total expense
Production System	$77,369	$20,056	$97,425
Transmission System	23,552	6,105	29,657
Distribution System	61,883	16,042	77,925
Total	$162,804	$42,203	$205,007
General Expenses	42,203	.....	.....
Gas Purchased			
From others in Kentucky	67,754	67,754	.....
From United Fuel Gas Co.			
1,680,233 M c f @ 3018 (A)			
1,680,233 " " 3311 (B)	510,112		.....
	.....	559,636	.....
Total Gas Purchased	$577,866	$627,390	.....
Production System Expense	97,425	97,425	.....
Total Production Expense	$675,291	$724,815	.....

NOTE.—(A) 8% New Basis
(B) 10% New Bas

Warfield Natural Gas Company

Operating Expenses for 12-month Period Ending August 31, 1924

Production Expenses

	Total direct expense	Less gas used in own operation	Net direct expense
Operation			
Superintendence	$912.44	.....	$912.44
Operating Wells & Lines	5,685.09	$61.50	5,623.59
Production Tools & Supplies	1.65	.....	1.65
Field Measuring Stations	590.89	.....	590.89
Leasehold Expense	2,219.83	.....	2,219.83
Rentals on Unoperated Leases	44,423.68	.....	44,423.68
Well Royalties	5,685.57	.....	5,685.57
Canceled & Surrendered Leases	3.88	.....	3.88
Miscellaneous & Insurance	1,663.14	.....	1,633.14
Maintenance			
Changing Construction	80.70	.....	80.70
Repairs to Wells	14,179.10	.....	14,179.10
Repairs to Field Lines	1,808.78	.....	1,808.78
Field Measuring Stations	175.62	.....	175.62
Total	$77,430.37	$61.50	$77,368.87
Gas Purchased, Others 1,019,036 M. c. f. @	$67,754.27	.....	$67,754.27
Gas Purchased, from United Fuel Gas Co., 1,690,233 M c.f. For cost see preceding statement			

Operating Expenses—Continued

Transmission Expenses

Operation	Total direct expense	Less gas used in own operation	Net direct expense
Superintendence	$38.32	.....	$38.32
Transmission Lines	3,731.89	.....	3,731.89
Transmission Tools & Supplies	68.28	.....	68.28
Compressing Stations	7,994.15	$1,154.61	6,839.54
Measuring Stations	272.95	.....	272.95
Miscellaneous & Insurance	.....	.....	.....
Maintenance			
Changing Construction	3,105.35	.....	3,105.35
Transmission Lines	5,387.47	.....	5,387.47
Compressing Stations	3,798.54	.....	3,798.54
Measuring Stations	309.85	.....	309.85
[fol. 1469] Total Transmission Expense	$24,706.80	$1,154.61	$23,552.19

Distribution Expenses

Operation			
Superintendence	$980.83	.....	$980.83
Operating Lines	8,721.11	$213.40	8,507.71
Connecting & Disconnecting Meters	6,913.83	.....	6,913.83
Electrolysis	.....	.....	.....
Shop Expense	2,447.84	.....	2,447.84
Miscellaneous & Insurance	156.30	.....	156.30

Maintenance			
Changing Construction	7,471.97	.....	7,471.97
Lines and Regulators	5,355.65	.....	5,355.65
Meters & House Regulators	5,408.83	.....	5,408.83
Services	4,251.23	.....	4,251.23
Commercial			
Reading Meters	3,708.52	.....	3,708.52
Salaries of Office Force & Collectors	13,860.03	.....	13,860.03
Rents, Heat, Light, Telephone Rent & Tools	1,576.21	.....	1,576.21
Stationery & Supplies	1,160.52	.....	1,160.52
Miscellaneous & Insurance	83.78	.....	83.78
Total Distribution Expense	$62,096.45	$213.40	$61,882.05
General Expense			
Salaries & Expenses of General Officers	$4,895.65	.....	$4,895.65
General Office Expense	4,912.88	.....	4,912.88
Private Telegraph & Telephone Lines	1,651.25	.....	1,651.25
Legal Expenses	4,793.21	.....	4,793.21
Insurance	518.05	.....	518.05
Damages (Judgments & General Damage Claims)	124.57	.....	124.57
Relief & Annuities	53.50	.....	53.50
Taxes	15,542.00	.....	15,542.00
Miscellaneous	8,364.37	.....	8,364.37
Outside Operations	1,065.98	.....	1,065.98
Bad Debts	131.05	.....	131.05

Operating Expenses—Continued

	Total direct expense	Less gas used in own operation	Net direct expense
Gas Used by Company—Credit	—1,429.51	—$1,429.51	.....
Cleaning Out Tools	.....	.....	.....
Company Teaming	.....	.....	.....
Rents & Repairs to Building	149.99	.....	149.99
Total General	$40,772.99	—$1,429.51	$42,202.50

[fol. 1470] **Warfield Natural Gas Company**

Rates and Amount of Depreciation on Depreciable Property by Systems and Accounts

	Production System:	Valuation	Rate	Amount
Acct 208	Gas Well Struc. (Deter. Value)	.....	10%	.....
209	Field Meas. Sta. Structures	$217	5	$11
210	Other Production System Structures	3,646	5	182
213	Field Line Const. (Deprec. Value)	117,225	5	5,861
214	Field Line Equip. (Deprec. Value)	252,389	5	12,619
215	Field Meas. Sta. Equipment	1,405	4	56
216	Drilling & Cleaning Equipment (Deter. Value)	5,686	15	853
217	Other Production System Equipment	1,945	5	97
	Net Additions	—3,195	5	—160
	Total			$19,519
	Overheads, General			1,659
	Total			$21,178
	Transmission System:			
Acct 221	Compressing Station Structures	$19,810	4%	$792
222	Trans. Sys. Meas. Sta. Structures	720	4	29
223	Other Transmission Sys. Structures	12,066	4	484
224	Compressing Station Structures	116,131	5	5,807
225	Transmission Sys. Meas. Sta. Equip.	2,450	4	98
226	Transmission System Equipment	1,289,731	4	51,589
227	Other Transmission System Equip.	6,076	4	243
	Net Additions	345	4	14
	Total			$59,056
	Overheads, General			5,906
	Total			$64,962
	Distribution System:			
Acct 231	District Regulator Structures	$6,284	4%	$252
232	Other Distribution Structures	6,237	3	187
233	Gas Receivers and District Regulators	11,037	3	331
234	Distribution Line Equipment	250,771	3	7,523
235	Service Line Equipment	90,530	3	2,716
236	Meters	98,795	3	2,964
237	Meter Installations	40,807	5	2,045
239	Other Distribution System Equip.	2,782	3	83
	Net Additions	28,216	3.17	894
	Total			$16,995
	Overheads, General			1,803
	Total			$18,798

[fol. 1471] General Property Applicable to Distribution:

Acct 249	General Office Equipment	$2,420	5%	$121
253	General Office Equipment	710	25	178
	Total			$299
	Overheads, General			30
	Total			$329

General Property—General:		Valuation	Rate	Amount
Acct. 247	General Office Structures	.....	2%	.....
251	General Store & Shop Equip	$1,772	10	$177
252	General Stable Equipment	.....	10	.....
255	General Telephone & Telegraph Equipment	20,061	5	1,003
256	General Tools and Implements	477	20	95
	Net Additions	.....	..	.....
	Total			$1,275
	Overheads, General			128
	Total			$1,403

[fol. 1472] Warfield Natural Gas Company

Return on Valuation at 8 and 10%

Reproduction Cost New:	Valuation	Amount of return at 8%	Amount of return at 10%
Production System	$1,649,109 (A)	$131,929	$164,911
Transmission System	1,867,296	149,376	186,721
Distribution System	662,604	53,008	66,260
General Property:			
Applicable to Distribution	3,819	306	382
General	32,168	2,573	3,217
Working Capital:			
Production	150,952	12,076	15,095
Transmission	6,629	530	663
Distribution	17,419	1,394	1,742

Note.—(A) The difference between this amount and that shown on Summary is that return is computed on the Deteriorated Value of certain items of property.

[fol. 1473] Warfield Natural Gas Company

Summary of Valuation

	Estimated cost of reproduction new
Production System	$1,660,339
Transmission System	1,481,918
Distribution System	543,196
General Property	29,550
Total	$3,715,003
Overheads (General)	674,369
Total	$4,389,372

Note.—The valuation of the property is as of December 31, 1923, to which has been added the Net Additions for the eight months ending August 31, 1924, and also the Incomplete Construction at that date.

[fol. 1474] Warfield Natural Gas Company

Valuation of Production System Property

Acct. No.	Account	Estmiated cost of reproduction new
206	Rights of Way	$9,474
205–207	Leaseholds	900,000 (A)
208	Gas Well Structures	.....
209	Field Measuring Station Structures	217
210	Other Production System Structures	3,646
211	Gas Well Construction	237,537 (B)
212	" " Equipment	94,780 (B)
213	Field Line Construction	130,208
214	" " Equipment	275,190
215	" Measuring Station Equipment	1,405
216	Drilling & Cleaning Equipment	8,122 (B)
217	Other Production System Equipment	1,945
	Net Additions	3,195
	Total	$1,659,329
	Incomplete Construction	1,010
	Total	$1,660,339
	Overheads (General)	163,236
	Total	$1,823,575 (B)

NOTE—(A) Valuation of Leaseholds based on the Estimated Remaining Gas Content of 18,000,000 M c f at 5¢ per M c f.

(B) Included at Deteriorated Value in Estimated Cost of Reproduction New Basis for computing return.

[fol. 1475] Valuation of Transmission System Property

218	Land	$150
220	Rights of way	30,505
221	Compressing Station Structures	19,810
222	Transmission System Measuring Station Structures	720
223	Other Transmission System Structures	12,086
224	Compressing Station Equipment	116,131
225	Transmission System Measuring Station Equipment	2,450
226	Transmission System Equipment	1,289,731 (A)
227	Other Transmission System Equipment	6,076
	Net Additions	345
	Total	$1,478,014

NOTE—(A) This amount does not include value of line running from Greenup, Kentucky, to Portsmouth, Ohio, which amounts to $212,856.

Acct. No.	Account	Estimated cost of reproduction new
	Incomplete Construction	3,904
	Total	$1,481,918
	Overheads (General)	385,288
	Total	$1,867,206

[fol. 1476] Valuation of Distribution System Property

228	Land	$3,186
230	Rights of Way	538
231	District Regulator Structures	6,294
232	Other Distribution Structures	6,237
233	Gas Receivers & District Regulators	11,037
234	Distribution Line Equipment	250,771
235	Service Line Equipment	90,530
236	Meters	96,795
237	Meter Installations	40,907
239	Other Distribution System Equipment	2,782
	Net Additions	28,216
	Total	$537,293
	Incomplete Construction	5,903
	Total	$543,196
	Overheads (General)	119,408
	Total	$662,604

[fol. 1477] Valuation of General Property

244	General Office Land	$2,150
245	Other General Land	1,960
247	General Office Structures	
249	General Office Equipment	2,240
251	General Store & Shop Equipment	1,772
252	General Stable Equipment	
253	General Garage Equipment	710
255	General Telephone & Telegraph Equipment	20,061
256	General Tools & Implements	477
	Total	$29,550
	Overheads (General)	6,437
	Total	$35,987

[fol. 1478] Warfield Natural Gas Company

Allocation of Working Capital to Systems

Operating Expenses:		
Production System	$675,291	$150,952
Transmission System	29,657	6,629
Distribution System	77,925	17,419
Total	$782,873	$175,000
Working Capital	$175,000	

Estimate of Working Capital

Two months Operating Expenses 1/6 of $782,873	$130,479
Materials and Supplies	20,000
	$150,479
Cost 15% of Total	26,555
Total	$177,034
Say	$175,000

[fol. 1479] Warfield Natural Gas Company

Depletion of Leaseholds and Wells

	Valuation	Amount of annual depletion
Proven Acreage & Probable Acreage	$900,000	
This amount divided by the estimated gas content of 18,000,000 M c. f. results in a unit per M c. f. of $0.05. This unit when multiplied by the annual production of 552,890 M c. f. gives the amount of annual depletion		$27,645
Wells—Present and Future	$2,085,948(A)	
This amount is divided by the estimated gas content of 18,000,000 M c. f. resulting in a unit per M c. f. of $.115886. This unit when multiplied by the annual production of 552,890 M c. f. gives the amount of annual depletion		64,072

NOTE.—(A) This amount derived as follows:

45 Wells (present) @ 44.5% condition at $11,918		$238,658
155 Additional location @ $11,918		1,847,290
		$2,085,948
Estimated Content 18,000,000 divided by number of proven and probable acres (18905) equal	952 M c. f. Est. Content per Acre.	
Multiplied by average area per well 94.4 acres per well equal	89,869 M c. f. Est. Content per Well.	
Divided into gas content equal	200 Locations.	
Less present well	45	
Additional Wells	155	

{fol. 1480} Warfield Natural Gas Company

Annual Amount of Amortization Based on Deteriorated Values

	Value	Amount of annual amortization
Production System	$368,551	$18,815
Transmission System	1,590,815	80,678
Distribution System	502,952	27,040
General Property		
Application to Distribution System	2,617	141
General or Balance	19,896	1,070

The above is amortized over a period of 18.6 years which is the estimated life of the United Fuel Gas Co. Field.

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Warfield Natural Gas Company

Amortization of Production System Property Not Depletable

Acct. No.		Estimated cost of re-production less deterioration	Less salvage value	Amortizable value
205	Rights of Way	$9,474	.....	$9,474
206-207	Leaseholds	.....	.....	.....
208	Gas Well Structures	.....	.....	.....
209	Field Measuring Sta. Structures	.....	.....	.....
210	Other Production System Structures	183	.....	183
211	Gas Well Construction	2,864	.....	2,864
212	Gas Well Equipment	109,267	Depletable	.....
213	Field Line Construction	64,688	Depletable	.....
214	Field Line Equipment	93,780	.....	93,780
215	Field Measuring Sta. Equipment	201,911	$20,191	181,720
216	Purifying & Cleaning Equipment	1,194	101	1,093
217	Other Production System Equipment	5,686	569	5,117
		1,653	94	1,559
	Total			$295,790
	Overheads			72,761
	Total			$368,551

6118

[fol. 1482]

Amortization of Transmission System Property

Acct.		Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
218	Land	$150	$150	
220	Rights of Way	30,505		$30,505
221	Compressing Station Structures	16,164		16,164
222	Transmission System Measuring Station Structures	584		584
223	Other Transmission System Structures	10,895		10,895
224	Compressing Station Equipment	91,238	8,211	83,027
225	Transmission System Measuring Station Equipment	2,082	177	1,905
226	Transmission System Equipment	1,070,477	57,806	1,012,671
227	Other Transmission System Equipment	5,165	263	4,902
	Net Additions	345	34	311
	Total			$1,160,964
	Overheads			339,651
	Total			$1,500,615

[fol. 1483]

Amortization of Distribution System Property

Acct.				
228	Land	$3,186	$3,186	.....
230	Rights of Way	538	.....	$538
231	District Regulator Structures	5,482	.....	5,482
232	Other Distribution Structures	4,978	.....	4,978
233	Gas Receivers and District Regulators	9,381	675	8,706
234	Distribution Equipment	200,617	10,231	190,386
235	Service Line Equipment	76,950	3,386	73,564
236	Meters	82,276	12,259	70,017
237	Meter Installations	34,771	9,910	24,861
239	Other Distribution System Equipment	2,364	1,347	1,017
	Net Additions	28,216	2,822	25,394
	Total			$404,943
	Overheads, General			98,009
	Total			$502,952

[fol. 1484]

Amortization of General Property

		Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
Applicable to Distribution System				
Acct. 249	General Office Equipment	$1,805	$180	$1,625
253	General Garage Equipment	497	50	447
	Total			$2,072
	Overhead			545
	Total			$2,617
Balance or General				
Acct. 244	General Office Land	$2,150	$2,150	.....
245	Other General Land	1,960	1,960	.....
251	General Store & Shop Equipment	1,462	146	$1,316
255	General Telephone & Telegraph Equipment	15,848	1,585	14,263
256	General Tools & Implements	353	35	318
				$15,897
				3,999
				$19,896

U. EX. NO. 6

Warfield Natural Gas Company

Analysis of Expenses and Return on Investment
Based on Expenses and Sales 12 Month Period Ending August 31, 1924
Valuation Basis - Estimated Cost of Reproduction New Less Observed Deterioration as of December 31, 1923 with Net Additions for 8 Months Ending August 31, 1924 Added

Note: Showing effect of Company retaining its own production and gas purchased by it in Kentucky and buying the balance necessary to fulfill its sales from the United Fuel Gas Co.

	Divisors in M.c.f.			Rate of Return 8%		Rate of Return 10%	
				Amount	Rate Per M.	Amount	Rate Per M.
Expense							
Production & Purchase	Total Sales		3,262,159	$665,150	$0.20390	$716,195	$0.21955
Transmission	Total Sales Less Field Sales		3,244,621	29,657	.00914	29,657	.00914
					$ .21304		$ .22869
Depreciation							
Production System	Total Sales		3,262,159	$ 21,178	$ .00649	$ 21,178	$ .00649
Transmission System	Total Sales Less Field Sales		3,244,621	64,982	.02002	64,982	.02002
General Property (Less General in Dist.)	Total Sales		3,262,159	1,403	.00043	1,403	.00043
					$ .02694		$ .02694
Return							
Production System	Total Sales		3,262,159	$124,776	$ .03825	$155,971	$ .04781
Transmission System	Total Sales Less Field Sales		3,244,621	127,340	.03925	159,176	.04906
General Property	Total Sales		3,262,159	2,161	.00066	2,701	.00083
Working Capital - Production	Total Sales		3,262,159	12,076	.00370	15,095	.00463
Working Capital - Transmission	Total Sales Less Field Sales		3,244,621	530	.00016	663	.00020
					$ .08302		$ .10253
Depletion							
Proven and Probable Acreage	Total Sales		3,262,159	$ 27,645	$ .00847	$ 27,645	$ .00847
Wells	Total Sales		3,262,159	64,077	.01964	64,077	.01964
					$ .02811		$ .02811
Amortization							
Production System (Plant not Depletable)	Total Sales		3,262,159	$ 19,815	$ .00607	$ 19,815	$ .00607
Transmission System	Total Sales Less Field Sales		3,244,621	80,678	.02487	80,678	.02487
General Property (Less General in Dist.)	Total Sales		3,262,159	1,070	.00033	1,070	.00033
					$ .03127		$ .03127
Total City Gate Rate					$0.36138		$0.41754
Distribution							
Expenses	Sales thru Dist. Plants		1,916,873	$ 77,925	$ .04065	$ 77,925	$ .04065
Depreciation - Distribution Property	Sales thru Dist. Plants		1,916,873	18,798	.00981	18,798	.00981
Depreciation - GeneralProperty	Sales thru Dist. Plants		1,916,873	329	.00017	329	.00017
Return - Distribution Property	Sales thru Dist. Plants		1,916,873	45,146	.02355	56,433	.02944
Return - General Property	Sales thru Dist. Plants		1,916,873	232	.00012	290	.00015
Return - Working Capital	Sales thru Dist. Plants		1,916,873	1,394	.00073	1,742	.00091
Amortization - Distribution Property	Sales thru Dist. Plants		1,916,873	27,040	.01411	27,040	.01411
Amortization - General Property	Sales thru Dist. Plants		1,916,873	141	.00007	141	.00007
					$0.08921		$0.09531
Total Distribution Rate					$0.47059		$0.51285

[fol. 1485] Warfield Natural Gas Company

Divisors Used in Computing Costs per M c. f.

Sales, in M c. f., 12-month Period Ending August 31, 1924

	Production system	Transmission system	Distribution system
Sales in Distribution Plants	1,916,873	1,916,873	1,916,873
Sales from Field Lines	17,538	.....	.....
Sales from Main Lines	1,327,748	1,327,748	.....
Total Sales	3,262,159	3,244,621	1,916,873
		99.48%	58.76%

[fol. 1486] Uebelacker Exhibit No. 6

Warfield Natural Gas Company

Analysis of Expenses and Return on Investment Based on Expenses and Sales for 12-month Period Ending August 31, 1924

Valuation Basis, Estimated Cost of Reproduction New Less Observed Deterioration as of December 31, 1923, with Net Additions for 8 Months Ending August 31, 1924, Added

Note.—This Exhibit shows effect of Company retaining its own production and gas purchased by it in Kentucky and buying the balance necessary to fulfill its sales from the United Fuel Gas Co.

(Here follows side folio page 1487)

Warfield Natural Gas Company

Apportionment of General Expenses to Systems for 12-month Period Ending August 31, 1924

Operating Expenses	Net direct expenses	Proportion of general expenses	Total expense
Production System	$77,369	$20,056	$97,425
Transmission System	23,552	6,105	29,657
Distribution System	61,883	16,042	77,925
Total	$162,804	$42,203	$205,007
General Expenses	$42,203		
Gas Purchased			
From Others in Kentucky	$67,754	$67,754	.....
From United Fuel Gas Co.			
1,690,233 M c. f. @ .2958 (A)	499,971	.....	.....
1,690,233 " " .3260 (B)	.....	551,016	.....
Total Gas Purchased	$567,725	$618,770	.....
Production System Expense	97,425	97,425	.....
Total Production Expense	$665,150	$716,195	.....

NOTE.—(A) 8% Deteriorated Basis.
(B) 10% Deteriorated Basis.

[fol. 1489]

Warfield Natural Gas Company

Operating Expenses for 12-month Period Ending August 31, 1924

Production Expenses

Operation:	Total direct expense	Less gas used in own operation	Net direct expense
Superintendence	$912.44	.....	$912.44
Operating Wells & Lines	5,685.09	$61.50	5,623.59
Production Tools & Supplies	1.65	.....	1.65
Field Measuring Stations	590.89	.....	590.89
Leasehold Expense	2,219.83	.....	2,219.83
Rentals on Unoperated Leases	44,423.68	.....	44,423.68
Well Royalties	5,685.57	.....	5,685.57
Canceled & Surrendered Leases	3.88	.....	3.88
Miscellaneous & Insurance	1,663.14	.....	1,663.14
Maintenance:			
Changing Construction	80.70	.....	80.70
Repairs to Wells	14,179.10	.....	14,179.10
Repairs to Field Lines	1,808.78	.....	1,808.78
Field Measuring Stations	175.62	.....	175.62
Total	$77,430.37	$61.50	$77,368.87
Gas Purchased, Others, 1,019,036 m. c. f. @	$67,754.27	.....	$67,754.27

Gas Purchased, from United Fuel Gas Co., 1,690,233 m. c. f. For cost see preceding statement.

Operating Expenses—Continued

Transmission Expenses

	Total direct expense	Less gas used in own operation	Net direct expense
Operation			
Superintendence	$38.32	.....	$38.32
Transmission Lines	3,731.89	.....	3,731.89
Transmission Tools & Supplies	68.28	.....	68.28
Compressing Stations	7,994.15	$1,154.61	6,839.54
Measuring Stations	272.95	.....	272.95
Miscellaneous & Insurance	.....	.....	.....
Maintenance			
Changing Construction	3,105.35	.....	3,105.35
Transmission Lines	5,387.47	.....	5,387.47
Compressing Stations	3,798.54	.....	3,798.54
Measuring Stations	309.85	.....	309.85
Total Transmission Expense	$24,706.80	$1,154.61	$23,552.19

[fol. 1490] **Distribution Expenses**

Operation			
Superintendence	$980.83	.....	$980.83
Operating Lines	8,721.11	$213.40	8,507.71
Connecting & Disconnecting Meters	6,913.83	.....	6,913.83
Electrolysis	.....	.....	.....
Shop Expense	2,447.84	.....	2,447.84
Miscellaneous & Insurance	156.30	.....	156.30
Maintenance			
Changing Construction	7,471.97	.....	7,471.97
Lines and Regulators	5,355.65	.....	5,355.65

Meters & House Regulators	5,408.63	.....	5,408.63
Services	4,251.23	.....	4,251.23
Commercial:			
Reading Meters	3,708.52	.....	3,708.52
Salaries of Office Force & Collectors	13,860.03	.....	13,860.03
Rents, Heat, Light, Telephone Rent & Tools	1,576.21	.....	1,576.21
Stationery & Supplies	1,160.52	.....	1,160.52
Miscellaneous & Insurance	83.78	.....	83.78
Total Distribution Expense	$62,096.45	$213.40	$61,883.05
General Expense			
Salaries & Expenses of General Officers	$4,895.65	.....	$4,895.65
General Office Expense	4,912.88	.....	4,912.88
Private Telegraph & Telephone Lines	1,651.25	.....	1,651.25
Legal Expenses	4,793.21	.....	4,793.21
Insurance	518.05	.....	518.05
Damages (Judgments & General Damage Claims)	124.57	.....	124.57
Relief & Annuities	53.50	.....	53.50
Taxes	15,542.00	.....	15,542.00
Miscellaneous	8,564.37	.....	8,364.37
Outside Operations	1,065.98	.....	1,065.98
Bad Debts	131.05	.....	131.05
Gas Used by Company—Credit	—1,429.51	—$1,429.51	.....
Cleaning Out Tools	.....	.....	.....
Company Teaming	.....	.....	.....
Rents & Repairs to Building	149.99	.....	149.99
Total General	$40,772.99	—$1,429.51	$42,202.50

[fol. 1491] **Warfield Natural Gas Company**

Rates and Amount of Depreciation on Depreciable Property by Systems and Accounts

	Production System:	Valuation	Rate	Amount
			[illegible]	
Acct. 208	Gas Well Structures (Depr. Value)			
209	Field Meas. Sta. Structures	$217	5	$11
210	Other Production System Structures	3,646	5	182
213	Field Line Construction (Depr. Value)	117,225	5	5,861
214	Field Line Equipment (Depr. Value)	252,349	5	12,619
215	Field Meas. Sta. Equipment	1,405	4	56
216	Drilling & Cleaning Equip. (Depr. Value)	5,696	15	853
217	Other Production System Equipment	1,965	5	97
	Net Additions	3,195	5	160
	Total			$19,519
	Overheads, General			1,952
	Total			$21,171

	Transmission System:			
Acct. 221	Compressing Station Structures	$19,650	6%	$792
222	Trans. Sys. Meas. Sta. Structures	729	6	29
223	Other Transmission System Structures	12,696	6	644
224	Compressing Station Structures	116,131	5	5,807
225	Transmission Sys. Meas. Sta. Equip.	2,650	6	106
226	Transmission System Equipment	1,290,719	4	51,629
227	Other Transmission System Equip.	6,076	6	243
	Net Additions	345	6	14
	Total			$59,626
	Overheads, General			5,963
				$65,589

	Distribution System:			
Acct. 231	District Regulator Structures	$6,250	6%	$250
232	Other Distribution Structures	6,237	3	187
233	Gas Receivers and District Regulators	11,657	3	350
234	Distribution Line Equipment	250,773	3	7,523
235	Service Line Equipment	100,530	3	3,016
236	Meters	90,795	3	2,724
237	Meter Installations	63,897	5	2,555
239	Other Distribution System Equip.	2,792	3	83
	Net Additions	29,216	3.17	926
	Total			$16,655
	Overheads, General			1,665
	Total			$18,320

[Ex. 1892] General Property Applicable to Distribution

		Valuation.	Rate.	Amount.
Acct. 289	General Office Equipment	$1,634	5%	$[illegible]
253	General Office Equipment	734	25	[illegible]
	Total			[illegible]
	Overheads, General			[illegible]
	Total			[illegible]

General Property—General

Acct. 247	General Office Structures		2½	
251	General Store & Shop Equip.	$1,772	5%	[illegible]
252	General Engine Equipment		5%	
255	General Telephone & Telegraph Equipment	[illegible]	5	[illegible]
256	General Tools and Implements	672	25	[illegible]
	Not Additions			
	Total			[illegible]
	Overheads, General			[illegible]
	Total			[illegible]

[Ex. 1893] Workout Valuation Now Completed

Returns on Valuation of 4 and 5%

	Valuation.	Amount of surplus at 4%	5%
Less Depreciation			
Production System	$[illegible]	[illegible]	[illegible]
Transmission System	[illegible]	[illegible]	[illegible]
Distribution System	[illegible]	[illegible]	[illegible]
General Property:			
Applicable to Distribution	[illegible]	[illegible]	[illegible]
General	[illegible]	[illegible]	[illegible]
Working Capital			
Production	[illegible]	[illegible]	[illegible]
Transmission	[illegible]	[illegible]	[illegible]
Distribution	[illegible]	[illegible]	[illegible]

[fol. 1494] Warfield Natural Gas Company

Summary of Valuation

	Estimated cost of reproduction new less observed deterioration
Production System	$1,417,142
Transmission System	1,231,509
Distribution System	454,992
General Property	24,075
Total	$3,127,388
Overheads (General)	618,315
Total	$3,745,703

Note.—The valuation of the property is as of December 31, 1923 to which has been added the Net Additions for the eight months ending August 31, 1924 and also the Incomplete Construction at that date

[fol. 1495] Warfield Natural Gas Company

Valuation of Production System Property

Account number	Account	Estimated cost of reproduction new less observed deterioration
206	Rights of Way	$9,474
205, 207	Leaseholds	(See Note (A))
208	Gas Well Structures	
209	Field Measuring Station Structures	183
210	Other Production System Structures	2,864
211	Gas Well Construction	109,267
212	Gas Well Equipment	64,688
213	Field Line Construction	104,166
214	Field Line Equipment	220,152
215	Field Measuring Station Equipment	1,194
216	Drilling & Cleaning Equipment	5,686
217	Other Production System Equipment	1,653
	Net Additions	—3,195
	Total	$1,416,132
	Incomplete Construction	1,010
	Total	$1,417,142
	Overheads (General)	142,564
	Total	$1,559,706

Note.—(A) Valuation of Leaseholds based on the Estimated remaining gas content of 18,000,000 M c. f. at 5¢ per M c. f.

[fol. 1496] Valuation of Transmission System Property

218	Land	$150
220	Rights of Way	30,505
221	Compressing Station Structures	16,164
222	Transmission System Measuring Station Structure	584
223	Other Transmission System Structures	10,895
224	Compressing Station Equipment	91,238
225	Transmission System Measuring Station Equipment	2,082
226	Transmission System Equipment	107,477 (A)
227	Other Transmission System Equipment	5,165
	Net Additions	345
	Total	$1,227,605
	Incomplete Construction	3,994
	Total	$1,231,599
	Overheads (General)	360,247
	Total	$1,591,756

Note.—(A) This amount does not include value of line running from Greenup, Ky., to Portsmouth, Ohio which amounts to $176,670.

[fol. 1497] Valuation of Distribution System Property

228	Land	$3,186
230	Rights of Way	538
231	District Regulator Structures	5,482
232	Other Distribution Structures	4,978
233	Gas Receivers and District Regulators	9,381
234	Distribution Line Equipment	200,617
235	Service Line Equipment	76,950
236	Meters	82,276
237	Meter Installations	34,771
239	Other Distribution System Equipment	2,364
	Net Additions	28,216
	Total	$448,759
	Incomplete	5,903
	Total	454,662
	Overheads (General)	109,669
		$564,331

[fol. 1498] Valuati[illegible]eral Property

244	General Office Land	$2,150
245	Other General Land	1,960
247	General Office Structures	
249	General Office Equipment	1,805
251	General Store and Shop Equipment	1,462
252	General Stable Equipment	
253	General Garage Equipment	497
255	General Telephone & Telegraph Equipment	15,848
256	General Tools and Implements	353
	Total	$24,075
	Overheads (General)	5,835
	Total	$29,910

[fol. 1499] Warfield Natural Gas Company

Allocation of Working Capital to Systems

Operating Expenses

	Operating expenses	Proportion of working capital
Production System	$675,291	$150,952
Transmission System	29,657	6,629
Distribution System	77,925	17,419
Total	$782,873	$175,000
Working Capital	$175,000	

Estimate of Working Capital

Two Months Operating Expenses 1/6 of $782,873	$130,479
Materials and Supplies	20,000
	$150,479
Cost 15% of Total	26,555
Total	$177,034
Say	$175,000

[fol 1500] Warfield Natural Gas Company

Depletion of Leaseholds and Wells

	Valuation	Amount of annual depletion
Proven Acreage & Probable Acreage This amount divided by the estimated gas content of 18,000,000 M c. f. results in a unit per M c. f. of $0.05. This unit when multiplied by the annual production of 552,890 M c. f. gives the amount of annual depletion	$900,000	$27,645
Wells—Present and Future This amount is divided by the estimated gas content of 18,000,000 M c. f. resulting in a unit per M c. f. of $.115886. This unit when multiplied by the annual production of 552,890 M c. f. gives the amount of annual depletion	$2,085,948(A)	64,072

NOTE.—(A) This amount derived as follows:

45 Wells (pressed) @ 44.5% condition at $11,918=		$238,658
155 Additional location @ $11,918=		1,847,290
		$2,085,948
Estimated content 18,000,000 divided by number of proven and probable acres (18,905)=	952 M c. f. est. content per acre.	
Multiplied by average area per well 94.4 acres per well=	89,869 M c. f. est. content per well	
Divided into gas content	200 Locations.	
Less present well	45	
Additional wells	155	

[fol 1501] Warfield Natural Gas Company

Annual Amount of Amortization Based on Deteriorated Values

	Value	Amount of annual amortization
Production System	$ 368,551	$19,815
Transmission System	1,500,615	80,678
Distribution System	502,952	27,040
General Property		
Application to Distribution System	2,617	141
General or Balance	19,896	1,070

The above is amortized over a period of 18.6 years which is the estimated life of the United Fuel Gas Co. Field.

[fol. 1502] Warfield Natural Gas Company

Amortization of Production System Property Not Depletable

Acct. No.		Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
Acct. No. 206	Rights of Way	$9,474	.....	$9,474
205-207.	Leaseholds	.....	.....	.....
208	Gas Well Structures	.....	.....	.....
209	Field Measuring Sta. Structures	183	.....	183
210	Other Production System Structures	2,864	.....	2,864
211	Gas Well Construction	103,267	Depletable.	.....
212	Gas Well Equipment	64,688	Depletable.	.....
213	Field Line Construction	93,780	.....	93,780
214	Field Line Equipment	201,911	$20,191	181,720
215	Field Measuring Sta. Equipment	1,194	101	1,093
216	Drilling & Cleaning Equipment	5,686	569	5,117
217	Other Production System Equipment	1,653	94	1,559
	Total			$295,790
	Overheads			72,761
	Total			$368,551

[fol. 1503]

Amortization of Transmission System Property

Acct.					
	218	Land	$150	$150	.....
	220	Rights of Way	30,505	.....	$30,505
	221	Compressing Station Structures	16,164	.....	16,164
	222	Transmission System Measuring Station Structures	584	.....	584
	223	Other Transmission System Structures	10,895	.....	10,895
	224	Compressing Station Equipment	91,238	8,211	83,027
	225	Transmission System Measuring Station Equipment	2,082	177	1,905
	226	Transmission System Equipment	1,070,477	57,806	1,012,671
	227	Other Transmission System Equipment	5,165	263	4,902
		Net Additions	345	34	311
		Total			$1,160,964
		Overheads			339,651
		Total			$1,500,615

[fol. 1504]

Amortization of Distribution System Property

Acct.					
	228	Land	$3,186	$3,186	.....
	230	Rights of Way	538	.....	$538
	231	District Regulator Structures	5,482	.....	5,482
	232	Other Distribution Structures	4,978	.....	4,978
	233	Gas Receivers and District Regulators	9,381	675	8,706

[fol. 1502]

Warfield Natural Gas Company

Amortization of Production System Property Not Depletable

		Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
Acct. No 206	Rights of Way	$9,474	.....	$9,474
205-207	Leaseholds	.....	.....	.....
208	Gas Well Structures	.....	.....	.....
209	Field Measuring Sta. Structures	183	.....	183
210	Other Production System Structures	2,864	.....	2,864
211	Gas Well Construction	109,267	Depletable.	.....
212	Gas Well Equipment	64,688	Depletable.	.....
213	Field Line Construction	93,780	.....	93,780
214	Field Line Equipment	201,911	$20,191	181,720
215	Field Measuring Sta. Equipment	1,194	101	1,093
216	Drilling & Cleaning Equipment	5,686	569	5,117
217	Other Production System Equipment	1,653	94	1,559
	Total			$295,790
	Overheads			72,761
	Total			$368,551

[fol. 1503]

Amortization of Transmission System Property

Acct.				
218	Land	$150	$150	.....
220	Rights of Way	30,505	.....	$30,505
221	Compressing Station Structures	16,164	.....	16,164
222	Transmission System Measuring Station Structures	584	.....	584
223	Other Transmission System Structures	10,895	.....	10,895
224	Compressing Station Equipment	91,238	8,211	83,027
225	Transmission System Measuring Station Equipment	2,082	177	1,905
226	Transmission System Equipment	1,070,477	57,806	1,012,671
227	Other Transmission System Equipment	5,165	263	4,902
	Net Additions	345	34	311
	Total			$1,160,964
	Overheads			339,651
	Total			$1,500,615

[fol. 1504]

Amortization of Distribution System Property

Acct.				
228	Land	$3,186	$3,186	.....
230	Rights of Way	538	.....	$538
231	District Regulator Structures	5,482	.....	5,482
232	Other Distribution Structures	4,978	.....	4,978
233	Gas Receivers and District Regulators	9,381	675	8,706

Amortization of Distribution System Property—Continued

Acct.		Estimated cost of reproduction less deterioration	Less salvable value	Amortizable value
234	Distribution Equipment	200,617	10,231	190,386
235	Service Line Equipment	76,950	3,386	73,564
236	Meters	82,276	12,259	70,017
237	Meter Installations	34,771	9,910	24,861
239	Other Distribution System Equipment	2,364	1,347	1,017
	Net Additions	28,216	2,822	25,394
	Total			$404,943
	Overheads, General			98,009
	Total			$502,952

[fol. 1565]

Amortization of General Property

Applicable to Distribution System:

Acct.				
249	General Office Equipment	$1,805	$180	$1,625
253	General Garage Equipment	497	50	447
	Total			$2,072
	Overhead			545
	Total			$2,617

		Balance or General:			
Acct.	244	General Office Land	$2,150	$2,150	.....
	245	Other General Land	1,960	1,960	.....
	251	General Store & Shop Equipment	1,462	146	$1,316
	255	General Telephone & Telegraph Equipment	15,848	1,585	14,263
	256	General Tools & Implements	353	35	318
					$15,897
					3,999
					$19,896

[fol. 1506] Warfield Natural Gas Company

Divisors Used in Computing Costs per M c. f.

Sales in M c. f., 12-month Period, Ending August 31, 1924

	Divisor for		
	Production system	Transmission system	Distribution system
Sales in Distribution Plants	1,916,873	1,916,873	1,916,873
Sales from Field Lines	17,538	.....	.....
Sales from Main Lines	1,327,748	1,327,748	.....
Total Sales	3,262,159	3,244,621	1,916,873
		99.46%	58.76%

(Here follow side folio pages 1507 and 1508)

[fol. 1509] Uebelacker Exhibit No. 9

Estimated Historical Cost United Fuel Gas Company, Incorporated, Property Existing at December 31, 1923

[fol. 1510] Letter of Transmittal

[fol. 1511] Established 1894

Ford, Bacon & Davis, Incorporated, Engineers, Valuations-Reports-Construction-Management, 115 Broadway, New York

Frank R. Ford, George W. Bacon, George H. Davis, Charles F. Uebelacker, Charles N. Black, William Von Phul

New York, Philadelphia, Chicago, San Francisco

New York, May 26, 1924

United Fuel Gas Company, Incorporated, Charleston, W. Va.

Dear Sirs: We hand you herewith our report upon the estimated historical cost of the physical property, natural gas rights and leaseholds of the United Fuel Gas Company, Inc. and its subsidiaries, Warfield Natural Gas Company and Cabin Creek Gas Company, existing December 31, 1923.

Very truly yours, Ford, Bacon & Davis, Inc.

Warfield Natural Gas

BURKLACHER EXHIBIT NO. 7 (Including United Fuel Gas Company and

Analysis of Expenses and Retu
Based on Expenses and Sales 12 Month Per
Valuation Basis - Estimated Cost of Reproduction
December 31, 1923 with Net Additions for 8 Mon
Allocation Based upon Maximum Demand Responsibilit
Kentucky Major Section Distributio

	Total Charges	Proportion Applicable to Kentucky Distribution
Expenses		
Production	$2,406,801	4.3038%
Transmission	618,827	4.3947
Depreciation		
Production	209,783	4.3038
Transmission	589,600	4.3947
General Property (Less General in Dist.)	20,392	4.3038
Return		
Production	3,895,548	4.3038
Transmission	1,115,363	4.3947
General Property (Less General in Dist.)	43,748	4.3038
Working Capital - Production	53,098	4.3038
" " Transmission	13,655	4.3947
Depletion		
Proven Acreage	1,721,578	4.3038
Unproven "	297,933	4.3038
Wells	1,486,066	4.3038
Amortization		
Production	187,652	4.3038
Transmission	680,687	4.3947
General Property (Less General in Dist.)	14,461	4.3038
Distribution		
Expenses	$ 77,926	100%
Depreciation-Distribution Property	18,798	100
" General Property	329	100
Return Distribution Property	45,146	100
" General Property	233	100
" Working Capital	1,394	100
Amortization-Distribution Property	27,040	100
" General Property	141	100

Total Distribution Rate

Ratio of Domestic Rate to Average Rate (U. Ex. No. 4) 1.133 to 1
" " Industrial " " " " (U. Ex. No. 4) .774 to 1

[redacted]

Cabin Creek Gas Company)

[redacted] on Investment
[redacted] Ending August 31, 1934
[redacted] Less Observed Deterioration as of
[redacted] Ending August 31, 1934 added
[redacted] of Domestic and Industrial Sales
[redacted] Rate of Return 8%

Amount Applicable to Distribution	Applicable to Domestic Service	Applicable to Industrial Service	Domestic Cost Per M.		Industrial Cost Per M.	
$103,833	$-65,396	$ 38,136	$0.0845		$0.0845	
37,187	30,390	6,797	[illegible]	$0.07080	[illegible]	$0.06304
9,089	5,707	3,326	$ .00471		$ .00471	
25,032	18,774	6,258	.01561		.01561	
878	854	324	.00546	.09388	.00781	.08437
158,049	100,454	58,595	$ .08297		$ .08297	
49,017	36,763	13,254	.03056		.01758	
1,883	1,189	694	.00049		.00049	
2,788	1,443	845	.00118		.00118	
900	460	190	.00057	.11569	.00051	.10271
74,063	46,801	27,262	$ .01888		$ .01888	
12,822	8,090	4,731	.00458		.00458	
63,967	40,396	23,568	.01322	.07971	.01127	.07073
8,076	5,101	2,975	$ .00471		$ .00471	
29,025	21,778	7,250	.01716		.01128	
822	793	229	.00051	.02238	.00061	.01661
				$0.93662		$0.27249
77,925	$ 70,139	$ 7,743	$ .08742		$ .01154	
18,798	16,818	1,880	.01797		.00766	
329	296	33	.00034		.00034	
46,146	40,831	4,815	.05156		.00479	
253	210	23	.00217		.00023	
1,796	1,793	179	.00184		.00018	
27,060	24,336	2,704	.02810		.00781	
141	127	14	.00014	.12756	.00001	.02781
				$0.43873		$0.29611

1'937

[illegible]

[illegible]

Analysis of Expenses and
Based on Expenses and Rates of Return
Pelantico Basin - Settlement Cost of Pelantico
December 31, 2007 with Net Investment for
Allocation Based upon Customer Demand
Customers Within Pelantico Basin

	Total Company	Pelantico Basin Allocable Portion	Allocation Factor
Expenses			
Purchased Gas			
Transportation	$ 443,237	111,229	[illegible]
Depreciation			
Transmission System	11,316	11,316	[illegible]
Return			
Transmission System	139,170	111,229	[illegible]
Working Capital	1,494	1,494	[illegible]
Amortization			
Transmission System	11,197	11,197	[illegible]
Total City Gate Rate			
Distribution			
Expenses		$ 111,229	[illegible]
Depreciation - Transmission Property		11,316	[illegible]
" General Property		111	[illegible]
Return - Transmission Property		11,229	[illegible]
" General Property		111	[illegible]
" Working Capital		1,494	[illegible]
Amortization - Transmission Property		11,197	[illegible]
" General Property		111	[illegible]
Total Distribution Rate			
Ratio of Commodity Rate to Average Rate (Volumetric)		[illegible]	[illegible]

Garfield Natural Gas Company

cluding United Fuel Gas Company and Cabin Creek Gas Company

Analysis of Expenses and Return on Investment
on Expenses and Sales 12 month Period Ending August 31, 1936
- Estimated Cost of Reproduction New Less Observed Deterioration as of
, 1933 with Net Additions for 9 months Ending August 31, 1934 added
ed upon maximum Demand Responsibility of Domestic and Industrial Sales
Kentucky Gauge Section Distribution - Rate of Return 8%

Total Charges	Proportion Applicable to Kentucky Distribution	Amount Applicable to Distribution	Domestic 70% Trans. 30% Dist.	Industrial 95% Trans. 10% Dist.	Domestic Cost Per M.		Industrial Cost Per M.	
					$0.30842		$0.27390	
$ 69,097	30.55646	$37,461	$30,588	$6,963	.01282	$0.32124	.00277	$0.27667
31,516	30.5364	15,743	11,807	3,936	$ .01079	.01079	$ .00560	.00560
108,949	30.5364	33,858	34,494	8,168	.03239		.01162	
1,984	30.5364	606	458	181	.00062	.03301	.00021	.01183
69,087	30.5364	30,783	15,587	6,196	.01421	.01421	.00740	.00740
						$0.37529		$0.30850
$ 97,935	1006	$37,801	$30,133	$7,793	$0.08792		$0.01104	
19,798	100	19,798	16,919	1,880	.01397		.00266	
939	100	939	798	33	.00084		.00004	
49,148	100	49,148	40,631	4,519	.03788		.00679	
333	100	333	310	23	.00217		.00003	
1,394	100	1,394	1,258	139	.00104		.00020	
37,040	100	37,040	34,334	2,704	.02210		.00387	
141	100	141	127	14	.00210	$ .12710	.00002	$ .02421
						$0.50239		$0.33271

. 8x. 8x. 4) 1.144 to 1
. 8x. 8x. 4) .758 to 1

1508

[fol. 1512] Report

[fol. 1513] Valuation United Fuel Gas Company, Incorporated

Estimated Historical Cost Property Existing at December 31, 1923

Scope of Report

The purpose of this report is to set forth the estimated historical cost of the physical property of the United Fuel Gas Company, Inc.; existing at December 31, 1923.

The inventory and its verification, and the general field work upon which this estimate has been based is to all intents and purposes the same as that shown in the valuation of the physical property on a reproduction new basis as of December 31, 1923. That valuation has been made the basis of a separate report. It is referred to in the following paragraphs as the "Valuation Report as of December 31, 1923."

The inventory has been priced herein on an estimated historical cost basis:

That is the physical property now in existence and installed prior to December 31, 1915 at prices representing the average of the ten-year period 1906 to 1915. The cost of property installed since 1915 was determined from the records of the Company, which showed the net cost of additions and retirements from December 31, 1915 to August 31, 1923. This method was found to give the most accurate and practical determination of historical cost.

[fol. 1514] To the total estimated historical cost of the physcial property arrived at under the general method described above has been added an estimate of the construction overheads.

Inventory and Prices

In applying the above general method certain adjustments had to be made in some of the smaller accounts due to the nature of the records which were used. These adjustments are explained in detail in the subsequent paragraphs under the major property headings.

In compiling the unit prices for application to the property installed prior to December 31, 1915 the same procedure was followed as was used and described in the Valuation Report as of December 31, 1923.

Land

The amounts included in this report for land are the costs shown on the Company's books. No attempt was made to have this land appraised as of the date of its acquisition.

Rights of Way

The cost of Rights of Way and Rights of Way Expense have been included at the total amounts of these accounts as shown by the books of the Company.

Buildings and Structures

The prices for buildings and structures were built up in the same manner as was described in the Valuation Report as of December [fol. 1515] 31, 1923. The prices used for structural steel, steel products such as sheet iron, corrugated iron and other metal products, were obtained from records of actual prices for the years 1906-1915. Prices of certain other commodities such as lumber, cement, sand, gravel, etc., were arrived at by trending the present day costs to each of the years in the period under discussion by means of Government trends and other published data. In this manner the best prices available for each year during the period 1906-1915 were obtained. After determination of basic commodity prices the procedure followed in compiling the unit prices for application to the structures is the same as that set forth in the report before referred to. The labor rates were taken from the Company's records and from records of labor rates paid on similar construction work in West Virginia back to the year 1906.

The inventory designated the buildings and structures installed subsequent to December 31, 1915, the cost of these buildings being determined from the books.

Gas Wells

The cost of the gas well construction account as developed from the books of the Company was subjected to a careful check as to accuracy of record. The result of this check was to verify the costs as shown by well records of the Company as being a satisfactory measure of the estimated historical cost of this account. It was therefore decided to use the cost as shown by the well records as [fol. 1516] being the total cost of the gas well construction account of the active wells.

With reference to the gas well equipment account average costs of casing and tubing for the period 1906-1915 were compiled from quotations by representative concerns covering each year and applied to material in wells drilled or acquired prior to December 31, 1915. To this total was added the cost of equipment in wells drilled or acquired subsequent to December 31, 1915, at the amounts shown by the well records of the Company.

Field Lines

The inventory of field lines was prepared to show the gathering lines installed prior to December 31, 1915 and the book cost of the subsequent additions.

The inventory of well lines was segregated to show the lines installed prior to December 31, 1915 and the book cost of the lines installed subsequent to that date, using as a basis the date of completion of the wells to which the lines are attached.

The prices for materials for the period 1906-1915 were taken from records of quotations of representative manufacturers for each year of that period. The same percentages were allowed for

fittings as was used in the Valuation Report as of December 31, 1923. The labor prices used for the period 1906-1915 were built up from Company records and from records of labor rates paid in the fields. [fol. 1517] The method of building up unit prices for the period 1906-1915 followed exactly that described in the above referred to report.

Transmission Lines

The inventory of transmission lines was prepared to show the date of installation of each line. The lines installed prior to December 31, 1915 were priced at average prices for the period 1906-1915. The lines installed subsequent to December 31, 1915 are included herein at the cost as developed from the books for the individual lines. Commodity prices used in the average 1906-1915 prices were obtained from quotations made by representative manufacturers for the purchase of pipe in large quantities. The labor rates were obtained from the records of the Company, and from records of rates actually paid in West Virginia. The method of compiling unit prices follows exactly that described in the Valuation Report as of December 31, 1923.

Distribution Lines

The method used in the determination of the estimated historical cost of distribution lines departed slightly from the method described under transmission and field lines. This was due to the fact that the date of the installation of each line in the distribution plants could not be determined accurately. The method used consisted of the preparation of an inventory of lines in existence at December 31, 1915; pricing this inventory at the average of prices during the period 1906 to 1915, and adding to this result the net [fol. 1518] change in investment in the period from December 31, 1915 to December 31, 1923 as shown by the books. This addition has the effect of making the necessary changes in the 1915 inventory and of adding the investment at book cost for the period subsequent to 1915.

The commodity prices used in the average 1906 to 1915 prices were obtained from quotations made by representative manufacturers for the purchase of pipe in large quantities. The labor rates were obtained from the records of the Company and from records of rates actually paid in West Virginia. The method used in compiling unit prices for period 1906 to 1915 follows exactly that described in the Valuation Report as of December 31, 1923.

Compressing Station Equipment and Structures

The compressing stations of this Company were all installed subsequent to 1913. A careful scrutiny was made of the costs at which the charges were made in the books and it was found that the books reflected an accurate historical cost of the stations. The book prices have therefore been considered as the estimated histor-

ical cost of the compressing station equipment and structures, these two accounts being consolidated in the records.

Measuring Station Equipment

As the inventory of measuring stations developed the fact that practically all present stations had been installed subsequent to 1915 the book cost has been taken as the estimated historical cost of this account.

[fol. 1519]

Meters and Services

As it was impracticable to prepare the inventories in such manner as to show the date of installation of each item, it was necessary to follow the plan of pricing as modified in the description under the heading "Distribution Lines." This method generally was to price an inventory as of December 31, 1915 at the average 1906 to 1915 prices and add to this total the net changes in investment as shown on the books for the period December 31, 1915 to December 31, 1923. This addition has the effect of making the necessary changes in the 1915 inventory and of adding the investment at book cost for the period subsequent to December 1915.

Drilling and Cleaning Equipment

It was impracticable to prepare the inventory of drilling and cleaning equipment in such manner as to show the date of acquisition of each item. However, the nature of this equipment is such as to make it reasonable to assume that it has practically all been acquired subsequent to 1915. The major items of value, such as cables, lines, etc., are undoubtedly of recent acquisition. For this reason, the book costs have been used as the estimated historical cost basis for this account.

Telephone and Telegraph Equipment

The inventory of this equipment was set up by lines, giving the date of installation of each line. The general rule was followed in this case, that is, the lines installed prior to December 31, 1915 [fol. 1520] were priced on the average 1906 to 1915 price basis and the lines installed subsequent to December 31, 1915 were added at the cost of acquisition shown by the books. The prices of labor and commodities used in the estimated 1906 to 1915 price basis were obtained from records of quotations during the years in question. The method used in compiling unit prices followed that described in the Valuation Report as of December 31,1923.

General Equipment

This group includes shop, office, garage, and stable equipment, general tools and implements. As the majority of these items were acquired subsequent to 1915, the book cost has been used throughout.

Direct Overheads

The direct overheads used in building up the average prices for the period 1906 to 1915 are the same as those described and used in the Valuation Report as of December 31, 1923.

General Overheads

The general overhead rates included herein are the same as those described in detail in the Valuation Report as of December 31, 1923, with the exception that interest has been taken at 6 per cent instead of 8 per cent as used in the other report.

[fol. 1521]

Working Capital

Working capital in this report is taken as the same amount as was used in the Valuation Report as of December 31, 1923.

Leaseholds and Natural Gas Rights

The leaseholds and natural gas rights are included herein at the amounts shown on the books of the Company as of December 31, 1923.

Summaries of the Estimated Historical Cost are attached, set up in accordance with "A Uniform Classification of Accounts for Natural Gas Utilities presribed by The Public Service Commission of West Virginia.

[fol. 1522]

Summaries

[fol. 1523]

United Fuel Gas Company, Inc.

Summary of Estimated Historical Cost

Classification	Estimated historical cost property existing Dec. 31, 1923
Production System	$15,590,875
Transmission Sytsem	9,238,086
Distribution System	2,226,203
General Property	319,211
Total	$27,374,375
General Overhead Charges	4,449,333
Total	$31,823,708
Working Capital	990,000
Total	$32,813,708

[fol. 1524] United Fuel Gas Company, Inc.

Summary of Estimated Historical Cost by States

Classification	Estimated Historical Cost Property Existing December 31, 1923			
	Total	West Virginia	Kentucky	Ohio
Production System	$15,590,875	$15,068,360	$522,515	.....
Transmission System	9,238,086	7,955,766	1,055,431	$226,889
Distribution System	2,226,203	1,587,456	340,357	298,390
General Property	319,211	293,265	21,968	3,978
Total	$27,374,375	$24,904,847	$1,940,271	$529,257
General Overhead Charges	4,449,333	3,914,933	419,563	114,837
Total	$31,823,708	$28,819,780	$2,359,834	$644,094
Working Capital	990,000			
Total	$32,813,708			

Summary of Estimated Historical Cost by States and Accounts

Acct. No.	Production System Properties: Description	Estimated Historical Cost Property Existing December 31, 1923 Total	West Virginia	Kentucky	Ohio
204	Land	.....	.....	.....	$.....
205	Leaseholds				
207	Natural Gas Rights	$6,732,920	$6,693,254	$39,666	.....
206	Rights of Way	97,796	89,483	8,313	.....
208	Gas Well Structures	59,360	59,360	.....	.....
209	Field Measuring Station Structures	1,906	1,831	75	.....
210	Other Production System Structures	69,581	67,958	1,623	.....
211	Gas Well Construction	4,043,573	3,895,486	148,087	.....
212	Gas Well Equipment	1,514,101	1,453,903	60,198	.....
213	Field Line Construction	1,047,919	958,796	89,123	.....
214	Field Line Equipment	1,756,934	1,590,478	166,456	.....
215	Field Measuring Station Equipment	47,179	45,314	1,865	.....
216	Drilling and Cleaning Equipment	122,017	118,213	3,804	.....
217	Other Production System Equipment	16,950	16,085	865	.....
	Total Production System	$15,510,236	$14,990,161	$520,075	$.....
	Incomplete Construction	80,639	78,199	2,440	.....
		$15,590,875	$15,068,360	$522,515	$.....
	General Overhead Charges	1,724,856	1,630,908	93,948	.....
	Total	$17,315,731	$16,699,268	$616,463	$.....

Summary of Estimated Historical Cost by States and Accounts—Continued

Acct. No.	Description	Estimated Historical Cost Property Existing December 31, 1923			
	Transmission System Properties	Total	West Virginia	Kentucky	Ohio
218	Land	$3,533	$3,383	$150	.....
219	Leaseholds	.....	.....	.....	.....
220	Rights of Way	138,882	104,856	26,526	$7,500
221	Compressing Station Structures (A)	.....	.....	.....	.....
222	Transmission System Measuring Station Structures	2,822	1,983	699	140
223	Other Transmission System Structures	149,765	142,202	6,132	1,431
224	Compressing Station Equipment (A)	2,839,966	2,735,006	104,960	.....
225	Transmission System Measuring Station Equipment	28,235	22,561	3,829	1,845
226	Transmission System Equipment	6,061,359	4,936,562	910,103	214,694
227	Other Transmission System Equipment	17,159	13,176	2,704	1,279
	Total Transmission System	$9,241,721	$7,959,729	$1,055,103	$226,889
	Incomplete Construction	3,635*	3,963*	328	.....
		$9,238,086	$7,955,766	$1,055,431	$226,889
	General Overhead Charges	2,216,892	1,909,146	253,293	54,453
	Total	$11,454,978	$9,864,912	$1,308,724	$281,342

NOTE.—(A) Figures taken from trial balance, where they are shown as total for both Accts. Nos. 221 and 224.

[*Red in copy.]

[fol. 1526]

Distribution System Properties

228	Land	$22,705	$17,409	$2,313	$2,983
229	Leaseholds	.....	.....	.....	.....
230	Rights of Way	4,152	3,052	457	643
231	District Regulator Structures	17,020	11,694	3,069	2,257
232	Other Distribution Structures	18,010	13,865	2,540	1,605
233	Gas Receivers and District Regulators	21,454	15,260	3,344	2,850
234	Distribution Line Equipment	1,093,253	794,286	158,716	140,251
235	Service Line Equipment	361,200	260,282	52,723	48,195
236	Meters	534,420	373,682	87,299	73,439
237	Meter Installations	141,441	89,861	27,571	24,009
238	House Regulators	.....	.....	.....	.....
239	Other Distribution System Equipment	11,367	7,464	1,856	2,047
	Total Distribution System	$2,225,022	$1,586,855	$339,888	$298,279
	Incomplete Construction	1,181	601	469	111
		$2,226,203	$1,587,456	$340,357	$298,390
	General Overhead Charges	444,559	316,969	68,002	59,588
	Total	$2,670,762	$1,904,425	$408,359	$357,978

Summary of Estimated Historical Cost by States and Accounts—Continued

Acct. No.	Description	Estimated Historical Cost Property Existing December 31, 1950			
	General Properties	Total	West Virginia	Kentucky	Ohio
304	General Office Land	$27,224	$26,746	$2,650	
305	Other General Land	9,742	7,915	827	
306	Leaseholds				
307	General Office Structures	72,006	72,006		
309	Other General Structures				
309	General Office Equipment	39,951	36,273	1,693	$1,985
310	General Store Equipment				
311	General Shop Equipment	11,569	9,750	939	880
312	General Public Equipment	40,958	39,958		
313	General Garage Equipment	29,623	28,980	643	992
314	General Laboratory Equipment				
315	General Telephone and Telegraph Equipment	335,512	300,819	34,786	
316	General Tools and Implements	3,772	3,490	282	284
317	Other General Equipment				
318	Power Rights and Licenses				
	Total General Property	$570,353	$549,943	$21,969	$3,979
	General Overhead Charges	40,000	32,000	6,320	700
	Total	$610,353	$581,943	$28,289	$4,779

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TRANSCRIPT OF RECORD

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, [redacted]

No. [redacted] 1

THE [redacted] FUEL GAS COMPANY, A CORPORATION, AND [redacted] FIELD NATURAL GAS COMPANY, A CORPORATION, APPELLANTS,

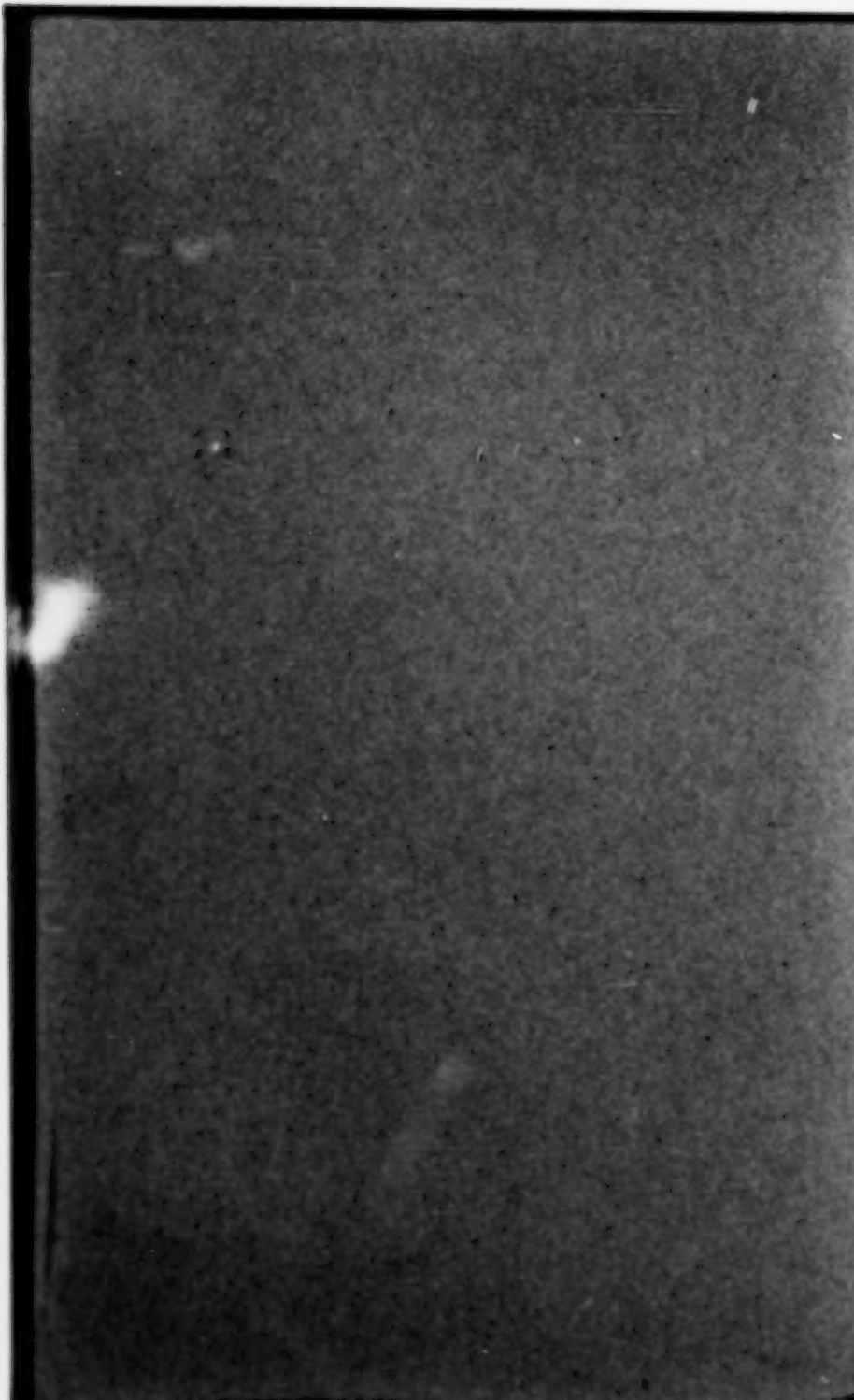
vs.

THE RAILROAD COMMISSION OF KENTUCKY, FRANK E. BURR, ET AL., ETC., AND FRANK E. DAUGHERTY, ATTORNEY GENERAL OF KENTUCKY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF KENTUCKY

FILED [redacted]

(28,377)



(31,357)

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1925

No. 634

THE UNITED FUEL GAS COMPANY, A CORPORATION, AND WARFIELD NATURAL GAS COMPANY, A CORPORATION, APPELLANTS,

vs.

THE RAILROAD COMMISSION OF KENTUCKY, FRANK N. BURNS, ET AL., ETC., AND FRANK E. DAUGHERTY, ATTORNEY GENERAL OF KENTUCKY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF KENTUCKY

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Davis Exhibit No. 1, Part 2—Report showing general geological description of natural gas properties, classification of acreage, and estimated gas reserve as of December 31, 1923, maps	1770	1397

JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., AUGUST 31, 1925

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UNITED FUEL GAS COMPANY

REPORT SHOWING

General Geologic Description of Natural Gas Properties
Classification of Acreage

and

Estimated Gas Reserve as of December 31, 1923

PART 1

RALPH E. DAVIS, Engineer,
Pittsburgh, Pennsylvania.
May 15, 1924

DAVIS EXHIBIT No. 1

1150

RALPH E. DAVIS
ENGINEER
902 Peoples Gas Building
PITTSBURGH

May 15, 1924.

UNITED FUEL GAS COMPANY,
Charleston, West Virginia.

Gentlemen:—

I submit to you herewith report covering the natural gas properties of the United Fuel Gas Company, the Warfield Natural Gas Company and the Cabin Creek Gas Company.

Yours very truly,

RALPH E. DAVIS.

RED/CEA

UNITED FUEL GAS COMPANY

REPORT SHOWING

General Geologic Description of Natural Gas Properties
Classification of Acreage
and
Estimated Gas Reserve as of December 31, 1923

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Part II.

GEOLOGICAL MAP IN FIVE SHEETS

Scale: One inch equals one mile
Outline Map-One Sheet
Scale: One inch equals two miles

SECTION I.

EXPLANATION OF METHODS, RESULTS AND RECOMMENDATIONS

UNITED FUEL GAS COMPANY

REPORT SHOWING

General Geologic Description of Natural Gas Properties

Classification of Acreage

and

Estimated Gas Reserve as of December 31, 1923

SCOPE OF REPORT

This report covers an investigation of the fee and leasehold property owned and controlled by the United Fuel Gas Company as of December 31, 1923. The gas producing properties directly owned by the Cabin Creek Gas Company and by the Warfield Natural Gas Company are included. Because of the close association of these companies, the work has been carried out as a single undertaking and reference made throughout the report to the "company" refers to whichever one of the three companies holds the property under discussion. Properties owned by other interests are referred to as "foreign" properties.

The purpose of the work has been (1) to assemble all available data pertinent to a study of the gas reserve of the property held by each company; (2) to determine said reserve so far as it is possible to do so in the present partially developed and partially tested condition of a large part of the territory; (3) to classify the undeveloped acreage now held as to its gas possibilities; and (4) to outline areas which have been proven unfavorable for production in well-known sands. In the determination of the gas reserves of the various parts of the territory distinction is made between reserves which are considered proven and reserves which are considered probable. The proven reserves are those contained in areas which have been thoroughly tested and which are now producing gas. The probable reserves are those believed to be available in territory partially tested by wells or in territory which appears to be especially favorable for gas because

of the geological conditions and the relation to known productive areas.

The report is presented in two parts.

PART I gives a detailed explanation of methods used, a summary of results obtained, recommendations, and contains all data which has been gathered and used in the preparation of the report, graphs and estimates of reserves of each part of the territory.

PART II consists of:

[1] A geologic map (in five sheets) prepared on a scale of one inch equals one mile. This map shows the principal geologic features of the territory, surface and subsurface structure, the location of productive wells and dry holes (including those owned by foreign interests) and shows a classification of the territory into proven, probable, possible and unfavourable areas.

[2] An outline map on one sheet (scale $\frac{1}{2}^{\text{in}} = 1$ mile) showing (a) county boundaries and principal towns, (b) proven and probable territory, (c) company acreage classed as proven or probable, and (d) trans-pipe transportation lines and compressor stations.

PROPERTY CONTROLLED

The following table shows the property owned or controlled as at December 31, 1925 by each of the three companies. The leasehold property is controlled by virtue of the terms of the small lease contract. The records of the land departments of each company have been accepted as evidence of such ownership as control exists in law have considered unnecessary for the purpose of this report to verify such land or leasehold agreements.

The following table shows also the total number of gas and oil wells owned as December 31, 1925.

ACREAGE HELD ON DECEMBER 31, 1923 (Continued)

SUMMARY

Title	Operated	Unoperated	Totals
United Fuel Gas Company	63,180.22	633,611.61	696,791.83
Warfield Natural Gas Company	4,315.50	105,798.35	110,113.85
Cabin Creek Gas Company	1,405.00	6,600.00	8,005.00
TOTAL ACREAGE	68,900.72	746,009.96	814,910.68

WELLS OWNED AND OPERATED DECEMBER 31, 1923

	Gas	Oil	Total
United Fuel Gas Company	741 7		741 7
Warfield Natural Gas Company	46		46
Cabin Creek Gas Company	9	33	42
TOTAL	796 7	33	829 7

DATA AVAILABLE AND USED IN STUDY

The following data has been available and has been carefully classified where necessary and used:

(1) Property maps (scale 4" = 1 mile) on which are shown the major portion of the territory controlled by each company, also locations of all wells and tests made within the area studied. The lease boundaries of various tracts held are indicated on these maps except that in certain parts of the territory the maps are not complete in this detail. In general this has had no unfavorable effect on the work as the detailed location of each lease is of minor importance.

(2) Topographic maps published by the United States Geological Survey covering the entire area under consideration.

(3) Structure maps published by the West Virginia Geological Survey (for portions of West Virginia only) showing the structure of the surface formations. These structure maps have been worked out by the Survey, using various coals, the Kanawha Black Flint or the Big Lime as key horizons, and have been found sufficiently correct in the greater part of the area to make unnecessary more detailed field studies of surface structure.

(4) Published reports of the West Virginia Geological Survey.

(5) Well records of all company wells giving the location of the well, the date of its completion, the approximate elevation of the mouth of the well, depth to the top and bottom of formations penetrated, producing horizon, tubing and casing record, initial rock pressure, initial open flow, etc.

(6) Well records of many foreign wells located on properties adjoining or in the general vicinity of company leaseholds. These well records are usually but partially complete. The data given generally includes date of completion, depth of the well, producing horizon, reported initial open flow, and the depth to the producing horizon.

(7) The productive capacity of all company wells as reflected in the pressure data records of the company which have been carefully recorded since 1912.

(8) Production of each well in each year which was determined for the purpose of a previous report.

(9) Rock pressure data for practically all company wells. Rock pressures have been taken in each year for practically all wells completed since 1909.

PROCEDURE

Before undertaking any of the detailed work connected with the determination of the reserve of any part of the field, a comprehensive study has been made of the entire region in which the properties are held to determine such relations as may be found to exist either in particular places or in the entire territory between the geologic structure and the accumulations of gas or oil in productive pools.

Portions of the field which have been largely developed by gas wells have been studied with particular care to determine a method of measuring their gas reserve from the data available. It has been found that these developed portions of the gas fields have in the past given up their gas with a consistent drop in rock pressure and this has made it possible to measure the gas reserve of these areas by a special application of the rock pressure-production method. Briefly stated, use is made of Boyle's Law that the quantity of a gas present in a given volume varies directly as the absolute pressure.

Portions of the territory that have not been proven to contain commercial oil or gas pools have been studied to determine whether the conditions are favorable to the accumulation of oil or gas. In this study the location of such areas with reference to producing areas or to belts of proven dry territory has been considered the major evidence of value. The trend of the pools and the relation of same to structure has been given due weight. This has permitted all territory held and mapped to be classified as follows:

(1) Proven gas territory
(2) Proven oil territory
(3) Probable gas territory

(4) Probable oil territory
(5) Possible gas or oil territory
(6) Unfavorable territory

The classification as shown above for the territory held by each company is shown on page 34.

GEOLOGY

The general geologic studies carried out have been the following:

A map (in five parts) covering the territory on a scale of one inch equals one mile has been prepared on which there has been recorded the location of all producing wells and dry holes. Convenient symbols have been used to distinguish gas wells from oil wells, and to indicate the producing sand or sands of each well. The natural grouping of wells into fields (or pools) has been indicated on these maps by enclosing the wells of a group by a border, red having been used for the gas pools and green for the oil pools.

In those portions of the field where wells are sufficiently numerous to permit the preparation of a subsurface structure contour map, the structures have been indicated by structure lines drawn on the geologic maps. Considerable difficulty was met in the preparation of these maps and this difficulty was to a large extent overcome by preparing geologic cross-sections normal to the major folding of the region. For this purpose twenty-three geologic cross-sections normal to the axis of the Warfield Anticline and four miles apart were prepared, and one cross-section parallel to the Warfield Anticline was prepared. These sections were made with a horizontal scale of one inch equals one mile to a vertical scale of one inch equals two hundred and fifty feet for use during the progress of the work.

The detail of subsurface structure was worked out by plotting sand elevations of individual wells.

For those portions of the territory in which wells are so widely scattered that subsurface structures could not be mapped, the surface structures as mapped by the West Virginia Geological

Survey were transferred to the geologic map being prepared. The surface structures thus transferred are shown on the maps with black contours, whereas the subsurface structures are indicated by red contours for the Injun Sand, green contours for the Berea Sand, purple contours for the Weir Sand, blue for the Big Lime and yellow for the Salt Sand. It is pointed out that subsurface maps would have been preferable for all parts of the field and that surface structure maps have been used only where made necessary by lack of sufficient data. As new test wells are drilled in outlying portions of the field, an attempt should be made from time to time to determine the convergence of beds under such portions of the field, as this may have a bearing on the drilling program that should thereafter be followed.

The axes of the major anticlines and synclines have been indicated on the maps, except where subsurface structure is detailed.

The principal facts noted and conclusions drawn regarding the geologic occurrence of the gas and oil pools in the territory studied are the following:

(1) The formations from which production is obtained at present belong to the Lower Carboniferous and the Upper Devonian Systems.

(2) The more important gas producing horizons in order of importance are the following: Injun Sand, Berea Sand, Weir Sand, Big Lime, and Maxon Sand. The Keener, Salt and Squaw Sands are of minor importance.

(3) The oil production has been found principally in the Berea, Weir and Injun Sands. The Squaw Sand and the Keener Sand produce considerable oil in some parts of the territory, and the Salt Sand has afforded a few short-lived oil wells.

(4) The general position of the gas and oil accumulations is on the northwesterly flank of the geoanticline which rises from the Ohio Basin to the Appalachian folds.

(5) The general trend of the gas and oil pools is parallel to that of the major folding and there appears to be some localization of gas pools where minor folds cross the major structure.

These minor folds are thought to be due, in part at least, to a local thickening of the sands.

(6) Within the boundaries of the territory now held by the three companies the producing sands are to a considerable extent dry sands, i. e., water is absent or present in only slight quantity.

(7) The general result of the geological studies made of the territory leads to the conclusion that structurally the area is ideal for oil and gas accumulations and that in a broad sense this has been a major factor in their genesis. However, structure appears definitely to have been of minor consequence in the localization of gas pools but of major consequence in the localization of oil pools. The sands are to a large extent water dry or partially so. The oil is therefore free to localize in the synclinal portions of the sand bodies (as in the Griffithsville oil pool), on arrested dips or terraces (as in the Cabin Creek pool) or on the flank of a fold where the sand is partially filled with water (as in the oil pool forming the northwest border of the Clendenin gas pool). The gas, due to its mobility is, free to concentrate in any portion of the sand body above the level of water and oil, hence is found above this level in those portions of the sand having unusual thicknesses and porosity.

(8) The gas pools are localized within the sand formation (including the porous limestone called the Big Lime) in such portions of these formations as lie above salt water level (or above oil where this fluid is present) and as are sufficiently porous to contain notable quantities of gas. The gas pools frequently border the oil pools extending from the upper surface of the oil either to the limit of the productive sand or to portions of the sand that are too tight to contain notable quantities of gas.

(9) There is little distinct relation between local anticlinal structure and the locations of gas pools although some of these pools may extend from a position on the flank of an anticline to or beyond its crest. In the area of the Branchland Pool the more intensive production comes from minor anticlinal structures or domes. The failure of this relation to hold for other parts of the territory suggests the possibility of either (a) water in the lower portions of the sands of the Branchland area, or (b) that minor structures of this area may be related to thickened sand areas.

(10) Oil pools in neighboring fields, notably the Burning Spring Field lying about eight miles to the north of the Spencer Pool is an oil accumulation on a very distinct anticline. The anomaly of oil accumulations on anticlinal structures within a short distance of similar oil accumulations in synclines or on the flanks of synclines is readily understood when it is noted that the oil accumulation beneath an anticlinal fold is held in that position by the water present in the oil sand whereas the accumulation of oil down on the fold or in the syncline is explained by the absence of water or the partial absence of water.

(11) The three more important gas horizons, the Injun Sand, the Berea Sand and the Weir Sand show a considerable irregularity in thickness when large areas are considered. This is evidenced by the logs of many wells in which a sand is reported very much thinner than in other parts of the field.

(12) From tests drilled along the apex of the Warfield Anticline, it appears that here the sands are thin, and probably tight. This affords the only explanation of the absence of important gas accumulations along the axis of this major structure.

(13) There is a marked tendency for variation in effective porosity as is evidenced by the fact that the available gas toward the edge of the proven pools shows a marked decline, i. e., the wells are of small initial volume although the rock pressure is consistent with that of the more productive areas.

(14) Operating experience has shown that in any local area within the territory here considered, the major part of the gas production is obtained from a single formation such as the Injun, Berea or Weir, although in some parts of the area two sands have been productive from the same wells. Where one of these sands contains a large gas pool, other sands are either absent, considerably thinner than in places where highly productive, or tight. For example, in the Spencer Field, the Injun Sand has afforded a very small production, the Berea being the main producer, while in the Clendenin Field, the Injun Sand is the prolific producer and the Berea Sand, although tested in a number of wells, shows practically no gas of importance. The point made is that overlap of productive pools is much less frequent than is the case further north in West Virginia.

(15) The Big Lime has been found to contain gas over a wider portion of the territory than any other formation. However, the wells are generally not long lived (although they have a large initial production) and for this reason and under the conditions that have prevailed for the marketing of gas, it has not been feasible to develop the territory (apparently large) within which the Big Lime will afford a considerable supply of gas. The Big Lime has been a good producer in the Triple State Field where a number of wells drilled many years ago show a continued flow of gas and fairly high rock pressures. This field is locally quite spotty presumably because variation in texture of a somewhat porous limestone is more likely to occur than similar local variations in the texture of a sandstone.

(16) Considered as a whole, the gas belt from Roane County southwestward into eastern Kentucky is more spotty in its character than the prolific fields of central and northern West Virginia.

(17) The Injun Sand has become of less importance as a reservoir of gas as the Kentucky border is approached and this together with failure in the past to develop any important Injun pool in eastern Kentucky points to the probability of the Injun Sand becoming even less important westward from the West Virginia-Kentucky line.

(18) The Big Lime is of little importance north of Kanawha County and shows better promise westward to the Kentucky border where a valuable pool has been developed in the Triple State Field. This points to the possibility of the Big Lime being of considerable importance in the future in eastern Kentucky although it should be borne in mind that because of its variable texture and the usual rapid decline of flow from wells, it cannot be economically developed in competition with more prolific pools such as have been found in the Injun and Berea Sands.

(19) The folding of surface beds is more pronounced than that of formations lying at a depth of 2,000 feet. This is due to the thickening of formations to the southeast. There is a general relation between the surface folds and those at depth. The apex of a surface fold is offset to the southeast as compared to the corresponding deeper folds.

(20) The possibility of finding gas at a horizon deeper than any test that has yet been made will remain a question until such time as the demand for gas and the resulting price justifies the drilling of one or more deep tests. One well in the Triple State Field drilled to a depth of 2,870 feet is producing from that depth (possibly from the Corniferous). Gas from this horizon contains sulphur and can only be used when mixed with large quantities of clean gas. Eventually much deeper tests should be made, and having in mind the overturn of the upper formations to the southeast, it is suggested that such deep test when made be a mile or two northwest of the Warfield Anticline.

Detailed geologic sections representative of three portions of the territory have been prepared from well logs and are shown in Section IV, Part I, of the report. The sections chosen are the Clendenin Pool, the Cabin Creek Pool and the Branchland Pool. The Clendenin and Branchland Pools are located north of the Warfield Anticline; the Cabin Creek Pool lies to the south of it.

The surface elevations shown for the three wells used are the surface elevations of these wells. In each area the surface elevation varies from well to well considerably. The relative position of the several producing sands and their depth below sea level is shown.

It will be noted that there is a marked variation in the thickness of the several sands and of the intermediate beds, the latter showing a distinct thickening. This increase in thickness of intermediate beds is generally toward the southeast.

The Big Injun Sand shows less variation in thickness than is indicated for the Squaw, Weir and Berea. The Berea is thin or missing in the Clendenin Pool while in the Cabin Creek Pool is is about 35 feet thick. The Squaw and Weir Sands are thick in the area south of the Clendenin Pool but missing in the Branchland Section and thin in the Cabin Creek Section.

GEOLOGICAL MAP

The purpose of the geological map is to form a concise but comprehensive base on which gas and oil pools and geological features can be readily studied.

This map is made up in five sheets and covers the territory in which acreage held by the United Fuel Gas Company, the Cabin Creek Gas Company, the Warfield Natural Gas Company and also the Columbia Gas & Electric Company is located. The territory of the Columbia Gas & Electric Company is included on the maps because a study similar to that herein described is in preparation for the Columbia Gas & Electric Company. The scale used is one inch equals one mile and the primary divisions of the map correspond to the farm maps of the company. These latter are on a scale of four inches equals one mile so that the area relation between the two is sixteen to one. The farm maps are divided into squares eight inches to a side, called map squares, and these divisions are also shown on the geological map to facilitate cross reference.

All individual gas wells and dry holes whether those of the company or of foreign ownership have been plotted and numbered according to the system used on the company farm maps. The producing sands of each gas well are noted by special symbols. Oil wells are not shown individually but in order to show the limits of an oil pool, a green line is drawn outside of the edge wells of each pool. In order to show the intensity of drilling within oil pools, a cross is used, each line of which is drawn proportional in length to the number of wells. For every sixty oil wells within a square mile, an inch of line is used and the center of the cross is placed centrally over the group of wells for that square mile.

The complete legend for the data on the geological map will be found on Sheet No. 5 of the map.

SUBSURFACE STRUCTURE

Each portion of the producing areas has been separately studied and the subsurface structure determined in each where sufficient data has been available. Where the information has been too scanty to permit subsurface mapping, the structure as revealed in the surface beds and mapped by the West Virginia Geological Survey has been transferred to the geological map. The surface structure contours are in black while the subsurface contours of the Injun Sand are red, Berea green, Weir purple, Big Lime blue, and Salt Sand yellow.

The source of information for the determination of the positions of sub-surface beds was the excellent collection of well logs of the company wells and foreign wells which the company has on file. For well logs not contained in the company file, reference has been made to the county reports of the West Virginia Geological Survey.

Surface structure is shown with reference to sea level datum, while the subsurface contours are prepared with reference to a datum plane 3,000 feet below sea level. This is because all of the producing sands in this section of the state lie above this depth and most of them below sea level. With contours increasing in magnitude therefore, a rise is indicated in the beds and not a depression, as would be the case were sea level chosen as datum.

Since the record of well logs is largely for foreign companies, which show the depths to the producing sands only, structure contours have been drawn for these producing sands.

METHODS USED IN PLOTTING STRUCTURE

The method first used to work up structure on subsurface beds was to run at equal intervals cross section lines through the field. These lines were drawn at right angles to the general trend of the main axis of folding in this section of the state as indicated by the direction of the axes of the synclines and anticlines marked on the geological maps of the West Virginia Geological Survey. These lines were made parallel and the spacing between them was made four miles. At intervals of one mile along these cross section lines, panels were marked off and numbered. Each panel extended two miles on either side of the section line and therefore included an area one mile wide along the line and four miles long at right angles to the line. Within each of these panels the well logs of wells were recorded on special form ruled up for the purpose. In all panels the depth of the subsurface bed at the mid-point of the panel was desired but since it is exceptional to have a well located just at this point, wells within a reasonable distance were used and their average data taken to represent the conditions at the mid-point and on

the cross section line. Where wells were frequent, only those wells closest to this mid-point were used for the average but where wells are far apart, those available were used.

It was necessary to use averages rather than rely on the data for single wells for several reasons, chief of which was the fact that a very large part of the information is from logs of foreign companies and in the great majority of cases no elevation of the mouth of the well is given. This is also true for company wells to a great extent and this omission of elevation makes it necessary to use some other means than that usually employed in plotting subsurface structure. Furthermore in many cases, drillers will vary in the exact division between the sand and its overlying horizon, some going into the sand farther than others on account of the gradual rather than abrupt change in condition of the formations passed through. Also there are conditions where an unevenness of surface may affect the depth and in cases of some foreign wells, their exact location is open to doubt. On account of these factors likely to cause error, averaging was resorted to.

DETERMINATION OF ELEVATIONS OF WELLS

The omission of the elevations of the mouths of wells is a serious one if any attempt is made to construct a structure map showing underground conditions, for without this elevation no plot can be made showing the relations of sands. If a structure map is to be made, these elevations must be obtained either by sending out field parties and making barometric observations or by estimating them. Since it would have taken a long time to get to all the wells of the field for the purpose of getting the elevation of the mouth of the well and would have been very expensive, the method of spotting the locations of these wells on the topographic maps contained in the reports of the West Virginia Geological Survey was resorted to. It was found that our averages worked out very well in spite of the small scale of these maps and the close contour intervals, each representing a difference of elevation above sea level of fifty feet.

Excellent results were secured for several reasons. The farm maps of the company are enlarged reproductions of these

county topographic maps so that the creeks are duplicated on a larger scale but relatively correct. Furthermore the map records of the company are excellent and the map locations of wells are carefully made. Another favorable factor is the fact that gas wells especially those of a wild-cat nature are usually located at creek intersections or at a place which is flat enough to permit of the erection of the rig without the extra work of hauling materials up a hillside. Such places are not only found with greater accuracy of location on the topographic maps but the contours at these parts are wider and the estimate can in many cases be made to the nearest ten feet in spite of the contour interval of fifty feet. On the other hand, oil wells were not used where better data was available for these must be spaced closer and therefore there is not the latitude in the selection of a place to drill so that oil wells may be placed anywhere along the sides of a hill with no definite marking to locate the position on the topographic sheet.

An opportunity to test the accuracy of this method of estimating elevations was given during the progress of the work when a party was sent into the field to determine elevations of wells which were of special importance. These elevations had been previously estimated and it was gratifying to note that in spite of the numerous chances for error the elevations as found by barometric readings checked reasonably close with the estimated elevations and no change had to be made in the structure contours originally drawn in.

PLOTTING SAND DEPTHS

Geological cross sections, normal to the direction of the principal folding and at intervals of four miles were prepared, using a horizontal scale of one inch equals one mile (corresponding to the geological map), and a vertical scale of one inch equal to 250 feet (to accentuate the folding.)

Instead of using the arithmetical mean of the depths to any sand, the log of the well was actually plotted in its relative position along the length of the section but projected on the line. The elevation of the mouth of the well was first plotted to get its relation to sea level and then from this point the tops and bottoms of important sands were measured. An average of

these points was then taken and a smooth curve run from panel to panel to connect them. Where no measurements within a panel occur, the line is assumed from the slope it has on either side where wells occur.

These section lines were transferred on the structure map, and for every difference of twenty-five feet in elevation along these lines as noted from the cross sections, a point was marked with its elevation. With enough such points it was possible to draw in contours on the producing sand.

SUBSURFACE STRUCTURE CONTOURS

The general position and trend of the subsurface folds having been found from the cross sections, and the contours having been roughed in as described above, more detailed work was carried out by plotting on the map the sand elevations of single wells and groups of wells and detailing the structure line by use of this information. Practically all of the minor irregularities were determined in this way.

CLASSIFICATION OF TERRITORY

The territory controlled by the three companies is situated in the general gas belt extending from Roane County southwestward into eastern Kentucky. The classification of territory resulting from this study includes not only the acreage held by the three companies but that of other interests whose leases are contiguous or within the same general area as that of the three companies.

Four classifications have been made: (a) proven, (b) probable, (c) possible, (d) unfavorable.

Considered as a whole the classification of territory has been without regard to ownership, i. e., areas which appear unfavorable are so classed regardless of ownership by one of the three companies or by foreign interests; in like manner territory which is proven or probable or prospective has been classed without regard to ownership. It has been convenient however, in a few

instances to deviate from this rule, the special circumstances of each case being pointed out later.

(a) Territory which has been classed as proven includes all areas in which development has been prosecuted sufficiently to demonstrate the presence of gas or oil in commercial quantities under present operating conditions. Some good wells have been drilled in territory outside of the boundaries of that classed as proven but because of the isolated position of the wells, or the fact that an insufficient number of wells had been completed to justify the installation of pipe line, the territory in which such isolated wells are located is not classed as proven although its prospective value is of course recognized.

The territory controlled by the United Fuel Gas Company in Roane, Kanawha, Calhoun and Mingo Counties is in the main blocked territory, i. e., comparatively few leases are held by foreign companies. However, in each of the several proven pools which in the main are controlled by the United Fuel Gas Company, some leaseholds are owned and operated by foreign interests. In classifying the territory of these proven fields controlled largely by one of the three companies, the leaseholds of foreign operators are similarly classified.

In a few localities, pools or portions of pools are almost entirely controlled by foreign interests, and these areas although highly productive are not classed as proven for the reason that their reserves are of no avail to the three companies whose reserves are being determined. It has been thought proper to show on the map as proven only those portions of the field which are either entirely controlled or largely controlled by one of the three companies, and for reason above stated to include the proven pools controlled by the Columbia Gas & Electric Company

(b) Territory which has been mapped as probable includes not only acreage controlled by the three companies but acreage controlled by foreign interests. No area has been considered highly probable unless its relation to a proven pool is such that the probability of the pool extending over the territory classed as probable is more or less obvious. Not infrequently test wells have been drilled some distance from proven pools and where these have obtained a good flow of gas from the same sand, it is

reasonable to assume that the proven pool will be found to extend to the location of these outlying test wells. Another factor that has been of value especially in some instances in classifying territory as probable has been the general trend of a neighboring pool and the structure as indicated by the subsurface structure contours. For example, the small gas pool developed near the western border of Wayne County (shown on geologic map sheet number four, map squares 20-37, 39; 22-37, 39) shows an accumulation of gas where the subsurface contours rise from a water-filled portion of the sand. These structure contours indicate a extension northeastward of the minor anticline on which the gas appears to have been accumulated and this leads to the classification of the territory northeastward as highly probable.

(c) Territory which has been classed as possible includes those portions of the field in which tests are very widely scattered and which should therefore be further tested to determine the possibility of commercial gas or oil accumulations. A considerable portion of this territory has been tested to a minor extent by wells drilled only to the Big Lime from which there was commonly some flow of gas. It is believed that eventually small wells in the Big Lime will be commercial as the pools now yielding a maximum quantity of gas reach a declining stage. The territory classed as possible has therefore two possibilities; (1) that small wells in the Big Lime will become commercial, and (2) that deeper testing to the horizon of the Injun, Weir, and Berea may reveal gas accumulations now unknown and giving no surface indication of their presence.

(d) Territory classed as unfavorable has been to a large extent tested with unfavorable results. Gas and oil pools of considerable size and in general showing an alignment with the structure must be separated from each other by areas in the producing horizons that are barren; and where a number of test wells have been drilled with no favorable result, the conclusion must be drawn that these wells indicate or outline such a barren territory at least to the depth tested. In some areas these dry tests have found salt water making the conclusion still more positive. This is true of a considerable portion of the territory in northwestern Roane and Wayne Counties traversed by the Parkersburg Syncline where wells drilled to the Berea Sand have

with two exceptions found only salt water. These exceptions are likely to be small accumulations of oil in a territory largely barren and no hesitation has been felt in classing the broad territory within the Parkersburg Syncline as unfavorable.

To the southeastward of the belt containing the several proven pools, the formations become more highly folded and but few test wells have been drilled, these having given no favorable result. Realizing that either oil or gas may be found to the southeast, the probability of this is much less than within areas classed as possible and no hesitation has been felt in classing the territory to the southeast as unfavorable.

GAS RESERVES OF PROVEN GAS TERRITORY

The selection of a method by which the gas reserves of a territory may be determined with reasonable accuracy has been the subject of an intensive study by the writer and his staff during the past few years, during which time many gas properties have been appraised. There are a number of methods in more or less common use, each being useful under certain conditions. The time-honored method of estimating gas reserves by comparison with older fields, the production of which is known, has certain advantages particularly in a new field. The estimation of reserves by the use of composite production decline curves is of particular use where it is necessary to determine the gas reserves of individual wells and the rate of their probable recovery. This method also has the advantage of permitting an estimate that includes only reserves that are economically recoverable under the conditions of operation at the time of the estimate.

Boyle's Law has been very useful in the determination of gas reserves of certain areas. The method is one which may be applied with confidence to definitely defined pools in which the texture of the sand permits a ready flow of the gas and in which there is no water or oil encroachment. The method would be of no use in the fields in which the oil and salt water replaces rapidly the pore space occupied by the gas. The gas pools of southwestern West Virginia are in formations either water dry or formations in which the salt water shows very little encroach-

ment on the gas pools. It is therefore a region in which Boyle's Law may be used with a high degree of confidence.

In the application of Boyle's Law to the problem at hand, it had been found quite difficult in our earlier work to apply the law successfully. The reason for this has been determined and a modification of method introduced which to a large extent avoids the difficulties formerly met with.

The principal difficulty in the application of Boyle's Law has been that, whereas there should theoretically be a proportional drop in rock pressure for production from a pool, it was found that this ratio apparently failed to hold for a number of important pools. A pool in which there is more or less variation in texture and in which drilling has proceeded from one portion of the pool progressively toward its limits, with occasional abandonment of older wells, gives the average rock pressure reading for the wells producing in a later year considerably higher than would have been found, had the sand been of even texture, quite porous and the pressure of various wells approximately equal at various time intervals. The data for such a pool when plotted in a single rock pressure production graph results in a curve or irregular line which affords a great deal of difficulty in its extrapolation.

In a study made of the Spencer Pool, it was discovered that the pool could be naturally subdivided into areas, the wells of each area showing a consistent decline in rock pressure as gas was being withdrawn. The wells of a group located near the center of the Spencer Pool showed an initial rock pressure of approximately one thousand pounds per square inch and by 1922 had declined to a rock pressure of approximately 50 pounds per square inch. The several wells of this group showed in each intervening year between 1907 and 1922 a rock pressure very close to the average rock pressure of the wells of the group. During the same time period, drilling was carried on progressively toward the eastern and western ends of the pool, the newer wells showing rock pressures very much higher than the older wells and in some cases approximating that of the original condition of the gas body. It was evident that barriers or partial barriers to the flow of gas existed in the sand and that the answer found by averaging, say, five old wells, with one new well would

be very different from the answer obtained were five old wells averaged with, say three new wells. In the second instance, a higher average rock pressure for the field would be indicated and the conclusion would be reached that depletion was less complete.

In this study of the Spencer Pool, it was found that the pool could be sub-divided into fifteen producing areas, the wells of each area showing a consistent decline. Rock pressure-production graphs were prepared for each sub-area and it was found that these graphs followed comparatively straight lines and that their extrapolation offered much less difficulty than the single graph representing all of the wells and all of the production of the entire pool. The reserves of the Spencer Pool were therefore determined by finding a reserve for each of its fifteen parts. The rock pressure time graphs and the rock pressure-production graphs prepared for the Spencer Pool are shown in Section III of this report. It will be noted that the rock pressure-production graphs for areas located near the center of the pool show a comparatively flat slope whereas those located near the two ends of the pool are quite steep. There are apparently two reasons for this, (a) the sand body near the central part of the pool is probably more uniform in texture and somewhat more porous than that near its ends permitting the accumulation of a larger quantity of gas in a given volume of sand, and (b) the withdrawal of gas from the central area reduces the rock pressure materially while that toward the ends of the pool is still high, and the resistance to the flow of gas being such that some gas migrates to the area of low pressure, gas is being withdrawn from the outer ends of the pool continuously not only through the wells of the outer area but also to the sand body of the central area where it escapes through the wells located there.

A graphical study has been made to determine if possible the rate of flow of gas from an area of high pressure within a pool to a contiguous area of somewhat lower pressure. This study is shown herewith in Section III. The average rock pressure of the wells of each sub-area of the Spencer Pool have been indicated for each year, and lines have been drawn connecting the several points for any one year. It will be noted that the lines form a series of trough-shaped graphs, and that the initial wells drilled in areas outward from the center found an initial rock pressure

somewhat reduced from the virgin condition of the pool. The slope of these lines shows an average decline in pressure toward the center of the pool of about 115 pounds per mile, indicating that for a sand of the average porosity of that of the Spencer Pool, the increase in rock pressure from a drilled-up and producing area outward to virgin territory approximates this figure. This data has been of material use in the study of highly probable territory contiguous to proven fields and of undrilled portions of proven and but partially developed pools.

The gas reserves of each area which has been classed as proven have been measured by the modified rock pressure-production graph as described above. Each proven area has been subdivided to the end that neighboring wells which show a consistent decline in rock pressure have been grouped together and a single graph prepared for each group. Considered as a whole, the graphs are remarkably straight and it is believed that their extrapolation gives a reasonably close estimate of the gas reserve of the proven territory. The results are tabulated and are shown herewith on page 33.

It will be noted that in several of the proven pools, certain undrilled areas have been enclosed with purple lines. These areas denote places where further drilling is believed to be essential to an economic withdrawal of the gas, as it is evident that if no wells are drilled in said areas an extremely long time will be required to exhaust the gas through surrounding wells. The proven areas outside of the purple lines are believed to be in the main sufficiently drilled for an economic recovery of their gas reserve. This is indicated by the fact that the wells of these areas show similar rock pressures as gas is withdrawn. The rock pressure in the undrilled areas is doubtless higher than in surrounding producing areas, this being indicated by the relation of rock pressures of nearby wells to the rock pressures of wells centrally located in the producing areas. Account of this is taken in estimating the total remaining reserves of each pool.

Attention is called to the fact that the estimate of proven gas reserve as made herein is determined separately for many small areas and groups of wells, and that although it is but natural that some of these estimates will be high, others are likely to be

low and that the number of estimates made is sufficient to permit a considerable balancing of errors. It is the opinion of the writer and that of all of the men who were engaged in the work that the method used is the best one that can be applied and that the answer obtained is conservative.

For convenience in the study of unproven territory, the ultimate reserve* of each proven pool and of each subdivision has been determined. The production from 1913 to 1923 inclusive for the wells of each area is known, the reserve of each area as of December 31, 1923 has been determined, and the production prior to 1913 of each group of wells has also been estimated by extrapolating upward and to the left the production—rock pressure graph of each group until said graph intersects the initial rock pressure abscissa of the group. The ultimate reserve of a given group of wells or of a proven developed area is then found by adding the production prior to 1913 (if the area produced prior to 1913), the production from 1913 to 1923 inclusive, and the reserve as of December 31, 1923.

This total for all sub-areas of a pool gives the ultimate estimated production of the pool and this figure divided by the number of acres in the pool gives the estimated ultimate production per acre. These quantities have been determined for each pool and are shown in Table No. 1, pages 37–43 inclusive.

It is interesting to call attention to the fact that the total estimated production prior to 1913, found by the method just described for the wells of the United Fuel Gas Company, totalled 60.8 billion cubic feet. The total production of the United Fuel Gas Company prior to 1913 was 63.98 billion cubic feet. The fact that the estimated production prior to 1913 checks so closely with the actual production of the company does not lead to the belief that estimates of future production can be made with any such degree of accuracy but it does indicate that the methods used may be expected to give a reasonably close approximation.

*By "ultimate reserve" is meant the total recoverable gas, that which has been produced plus that which will be produced.

GAS RESERVES OF PROBABLE GAS TERRITORY

The estimation of gas reserves of territory which has been classed as probable is naturally a difficult and uncertain undertaking. Here we are dealing with territory which is believed, from a careful study of all pertinent facts, to be gas territory, yet had it been sufficiently drilled to prove the correctness of this conclusion, it would be proven territory. Estimates made therefore of the probable territory must be considered as much less trustworthy than those made of the proven territory.

The method used of estimating gas reserves in proven territory can not be applied to the probable territory as the necessary data is lacking. Recourse is therefore made to another method, that of comparison with the nearest proven pool in the same sand, modifying same by such data as may be available from outlying test wells, etc.

In estimating the reserve of a particular area, say one square mile, which has been classed as probable gas territory, the following factors are taken into account; (a) Sand from which production is expected. This is judged by the nearness of a given producing sand; for example if the probable territory lies close to an Injun pool, it will be classed as probably productive from the Injun Sand. (b) Present rock pressure. The rock pressure may be indicated by an outlying test well within the probable area and if so, this is used. If such data is not available the rock pressure of the nearest wells of proven territory are used. (c) Portion of square mile held by company. If the company controls the entire area, the company is credited with its entire reserve. If the company owns a portion only of the probable territory it is credited with a proportional amount of the reserve. (d) The productiveness of the sand. This is determined as described in detail in the preceding section. (e) A factor ranging from 25% to 100% has been applied as the individual cases have warranted. This factor is used to guard against certain possibilities, namely: (1) that a portion of the territory classed as productive will prove to be non-productive; (2) that gas will flow from the territory in question to neighboring wells particularly those of field competitors so that by the time wells may be

drilled by the company, the reserve will have been to some extent reduced.

The farm maps showing the location of undeveloped territory controlled by the three companies have been used in conjunction with the geological map on which probable territory is shown. All company leaseholds lying within the area classed as probable have been given a gas reserve by the method just outlined. These results are tabulated in Table No. 2, page 47

POSSIBLE GAS TERRITORY

The territory classed as possible requires further testing to determine whether it has no worth or very great worth. Until such tests are made it is impossible to make any estimate regarding gas reserves of such territory. The fact that no estimate is made does not mean that the conclusion is reached that no gas will be produced from such territory; it merely means that no estimate made at the present time would be of any value.

SUMMARY OF RESULTS

The total proven gas reserve as of December 31, 1923 is indicated as 249.1 billion cubic feet of gas and the total probable reserve as of the same date is indicated as 414.6 billion cubic feet of gas, making a total of 663.7 billion cubic feet proven and probable gas reserve. The division of this reserve by fields is shown in the following table.

Inasmuch as no reserve has been estimated for the acreage classed as possible and unfavorable, a portion of which is likely to prove productive, and inasmuch as proper conservatism has been exercised in the classification of proven and probable territory, the estimate presented herewith is believed to be fair.

Summary Showing Proven and Probable Gas Reserves

(Billion cubic feet)

Field	Proven Reserve	Probable Reserve
Clendenin	201.7	149.4
Spencer	18.2	12.3
Kanawha	*19.7	*145.0
Triple State	**9.5	**15.7
Outlying Fields in Lincoln, Wayne, Mingo, and adjoining Counties		92.2
Total	249.1	414.6
Total Proven and Probable		663.7

*Includes reserves of Cabin Creek Gas Company.

**Includes reserves of Warfield Natural Gas Company.

Classification of Acreage

The following table shows by fields the classification of territory as proven (this being divided into drilled and undrilled) probable, possible and unfavorable divisions.

UNITED FUEL GAS COMPANY

(Including Warfield Natural Gas Company)

SUMMARY SHOWING CLASSIFICATION OF ACREAGE AS OF DECEMBER 31, 1923

Field	Proven Acreage			Probable Acreage	Total Proven and Probable Acreage	Possible and Unfavorable Acreage	Total Acreage
	Drilled	Undrilled	Total				
Clendenin	77,408 0	20,448 0	97,856 0	38,912 0	136,768 0		
Spencer	18,560 0	960 0	19,520 0	8,640 0	28,160 0		
Kanawha	*3,008 0	128 0	3,136 0	29,888 0	33,024 0		
Triple State W. Va	3,257 6		3,257 6	236 8	3,494 4		
Ky	11,334 4		11,334 4	7,571 2	18,905 6		
Outlying Fields in Lincoln, Wayne, Mingo, and adjoining Counties				39,424 0	39,424 0		
TOTAL W. Va	102,233 6	21,536 0	123,769 6	117,100 8	240,870 4	455,921 43	696,791 83
Ky	11,334 4		11,334 4	7,571 2	18,905 6	91,208 25	110,113 85
TOTAL W. VA. & KY	113,568 0	21,536 0	135,104 0	124,672 0	259,776 0		

*Includes 320 acres producing both oil and gas.

CABIN CREEK GAS COMPANY

Kanawha	1,216 0	64 0	1,280 0	1,536 0	2,816 0	5,189 00	8,005 00
GRAND TOTAL	114,784 0	21,600 0	136,384 0	126,208 0	262,592 0	552,318 68	814,910 68

RECOMMENDATIONS

The studies made of the gas territory held by the United Fuel Gas Company lead to the following conclusions regarding this territory and other territory situated in the same general fields.

(1) The company should continue its policy of acquiring acreage particularly acreage not now held which is located in the areas classed as proven or probable.

(2) Acreage now held in areas classed as possible or unfavorable should be given such test as is specifically recommended in the detailed discussion of each such area. Where this testing fails to discover reserves of value, the acreage should be abandoned.

(3) The drilling of additional wells in the proven areas should be confined so far as lease requirements permit to areas indicated on the outline map as undrilled proven acreage.

SECTION II

SUMMARY TABLES

Table No. 1—Gas Reserve of Proven Acreage

(Arranged by Pools and Areas)

Calculation of Production Factor for Each Sand and Area

Table No. 2—Gas Reserve of Probable Acreage

Table No. 3—Rock Pressure—Averages and Production

(Arranged by Proven Pools and Areas)

TABLE NO. 1

Gas Reserve of Proven Acreage

(Arranged by Pools and Areas)

Calculation of Production Factor for Each Sand and Area

SUMMARY SHOWING GAS RESERVES AND PRODUCTION OF PROVEN AREAS

Area	Average Initial Rock Pressure when Drilled	Date	Average I. O. F. Million Cu. Feet	Estimated Production Prior 1913 Billion Cu. Feet	Production 1913-1923 Billion Cu. Feet	Estimated Reserves to 0 lb. Rock Billion Cu. Feet	Estimated Total Production to 0 lb. Rock Billion Cu. Feet	No. Company Wells	*No. Foreign Wells	Square Miles Attributable to Company Wells	Square Miles Attributable to Foreign Wells	Square Miles Attributable to Undrilled Acreage	Total Square Miles in Area	Total Prod. per lb. per Sq. Mile Mil. cu. ft. based on Sq. Mile Att. to Co. Wells	Additional Reserves from Undrilled Parts: Estimated Rock Pressure based on Average Variation of 115 lb. per Mile	Additional Reserves from Undrilled Parts: Reserves based on Est. Rock Pressure and Ave. Prod. Factor Billion Cu. Ft.
BEREA SAND																
A	970	1917	2 4		2 13	0 74	2 87	3	0	70	0	0	70	4 2		
B	900	1917	2 2		6 27	2 09	8 36	15	2	3 25	25	1 0	4 50	2 9	58	0 3
C	850	1916	4 5		15 95	2 05	18 00	34	10	3 75	1 25	0	5 00	5 6		
D	700	1916	3 6		5 49	1 11	6 60	9	0	2 00	0	0	2 00	4 7		
E	870	1910	3 8	4 50	17 04	2 26	23 80	25	1	2 75	25	5	3 50	9 9	46	0 1
F	900	1910	4 4	2 20	9 79	1 41	13 40	17	5	3 00	75	0	3 75	5 0		
G	900	1910	5 8	5 60	13 63	1 27	20 50	25	7	3 10	70	0	3 80	7 3		
H	910	1910	4 1	2 15	6 88	0 75	9 78	11	6	1 50	1 00	0	2 50	7 2		
I	975	1910	3 1	1 60	3 91	0 50	6 01	5	4	75	25	0	1 00	8 2		
J	950	1913	4 5		9 15	0 85	10 00	13	9	2 20	80	0	3 00	4 8		
K	575	1916	3 4		4 54	0 66	5 20	11	10	2 00	50	0	2 50	4 5		
L	635	1917	2 6		4 35	0 70	5 05	9	21	1 00	3 25	0	4 25	8 0		
Total or Ave	845		3 7	16 05	99 13	14 39	129 57	177	75	26 00	9 00	1 50	36 50	5 9 (a)		0 4
SALT SAND																
C-C	610	1915	2 7		5 63	0 77	6 40	12	6	2 00	1 50	0	3 50	5 2		
INJUN SAND																
M	615	1915	0 6		2 95	2 60	5 55	7	9	1 00	1 75	0	2 75	9 0		
Grand Ave. or Total				16 05	107 71	17 76 0 40	141 52 0 40									0 4
Total						18 16	141 92									

(a) Calculation of Production Factor for Berea Sand:

(1) Total production, all drilled areas, to 0 lb. rock pressure — 129.57 Billion Cu. Ft.
(2) Acreage attributable to production given in (1) — 26.0 Square Miles
(3) Average initial rock pressure of wells giving production under (1) — 845 Pounds

$$\text{Production Factor} = \frac{129.57 \text{ Billion Cu. Ft.}}{26.0 \text{ (Sq. Mi.)} \times 845 \text{ (lb.)}} = 5.9 \text{ million cu. ft. per square mile per pound drop in rock pressure}$$

*As of 12-31-1921.

CLENDENIN POOL

SUMMARY SHOWING

GAS RESERVES AND PRODUCTION OF PROVEN AREAS

Area	Average Initial Rock Pressure	Date Average Initial Rock Pressure	Production Estimated prior to 1913 Bil. Cu. Ft.	Production Calculated 1913-1923 inclusive Bil. Cu. Ft.	Est. Future Reserves to 0 lb. Rock Bil. Cu. Ft.	Estimated Total Production to 0 lb. Rock Bil. Cu. Ft.	Total Number Company Wells	†Number Foreign Wells	Square Miles Attributable to Company Wells	Square Miles Attributable to Foreign Wells	Square Miles Attributable to Undrilled Acreage	Total Square Miles in Area	Total Prod. per lb. per Sq.Mi. Mil. Cu. Ft. based on Sq.Mi. Att. to Co. Wells	Estimated Additional Reserves in Undrilled Parts
						BIG INJUN SAND								
A	500	1913		20 4	9 1	29 5	53	25	7 25	3 00	0	10 25	8 1	
B	520	1905	6 6	21 4	15 1	43 1	59	10	13 70	1 75	3 30	18 75	6 0	1 3
C	500	1908	1 7	4 1	3 1	8 9	10	16	2 75	2 25	.50	5 50	6 5	.2
C-C	500	1916		1 3	2 7	4 0	2	1	55	20	0	.75	14 5	
D	510	1908	6 5	10 0	7 5	24 0	18	8	3 75	1 25	.50	5 50	12 5	.3
E	455	1910	1 9	4 4	2 6	8 9	17	6	3 55	1 25	1 20	6 00	5 5	.6
F	505	1906	3 9	9 4	7 7	21 0	24	0	4 25	0	.75	5 00	9 8	2 4
G	505	1904	2 6	4 0	3 4	10 0	7	0	2 00	0	.25	2 25	9 9	.8
H	490	1913		10 2	13 0	23 2	22	13	9 25	1 25	1 50	†12.00	5 1	.7
I	490	1910	1 5	9 3	8 4	19 2	10	10	2 85	2 00	.90	5 75	13 7	.4
J	520	1917		7 7	7 9	15 6	16	1	4 25	.25	1 25	5.75	7 1	.5
K	500	1908	1 2	7 5	7 8	16 5	15	0	5 40	0	2 60	8 00	6 1	1 7
L	520	1904	1 3	11 0	10 9	23 2	12	0	2 65	0	2 35	5 00	16 8	1 0
M-M	520	1917		1 2	4 6	5 8	4	0	.75	0	2 25	3 00	14 9	.7
N	535	1909	0 9	9 4	12 1	22 4	24	2	6 20	.50	1 30	8 00	6 8	.4
O	520	1909	2 5	14 8	9 6	26 9	40	1	6 75	.25	0	7 00	7 7	
P	520	1905	10 0	14 8	13 2	38 0	50	3	15 85	.50	5 65	22 00	4 6	2 3
Q	450	1911	0 9	2 6	2 2	5 7	7	0	1 50	0	.25	1 75	8 4	.1
R	500	1909	0 7	5 0	5 3	11 0	16	0	5 15	0	.60	5 75	4 3	.3
S	495	1909	0 6	5 9	4 6	11 1	20	1	4 00	.25	.50	4 75	5 6	.2
T	510	1910	0 9	8 1	12 3	21 3	37	6	12 00	2 00	6 00	20 00	3 5	3 4
W	480	1911	•2 0	8 2	12 6	22 8	15	0	2 00	0	0	2 00	23 7	
Ave. or Total	502		45 7	190 7	175 7	412 1	478	103	116 40	16 70	31 65	164 75	7 1 (a)	17 3

†12-31-1921.

•H 1.20 Square Miles in proven dry not included.

•W Includes production of 12 Navajo Oil & Gas Co. wells purchased by U. F. G. Co., 12-9-21.

(a) Calculation of Production Factor for Injun Sand:

(1) Total production to 0 lb. Rock Pressure ..... 412.1 Billion Cu. Ft.
(2) Acreage attributable to the production given in (1) ..... 116.40 Sq. Miles
(3) Average initial rock pressure of the wells giving production under (1) ..... 502 Pounds

$$\text{Production Factor} = \frac{412.1 \text{ Billion Cu. Ft.}}{116.40 \text{ (Sq. Mi.)} \times 502 \text{ (lb.)}} = 7.1 \text{ million cu. ft. per square mile per pound drop in rock pressure}$$

CLENDENIN POOL

SUMMARY SHOWING

GAS RESERVES AND PRODUCTION OF PROVEN AREAS—(Continued)

Area	Average Initial Rock Pressure	Date Average Initial Rock Pressure	Production Estimated prior to 1913 Bil. Cu. Ft.	Production Calculated 1913-1923 inclusive Bil. Cu. Ft	Est. Future Reserves to 0 lb. Rock Bil. Cu. Ft.	Estimated Total Production to 0 lb. Rock Bil. Cu. Ft.	Total Number Company Wells	†Number Foreign Wells	Square Miles Attributable to Company Wells	Square Miles Attributable to Foreign Wells	Square Miles Attributable to Undrilled Acreage	Total Square Miles in Area	Total Prod. per lb. per Sq.Mi. Mil. Cu. Ft. based on Sq.Mi. Att. to Co. Wells	Estimated Additional Reserves in Undrilled Parts
BIG INJUN AND SQUAW SANDS														
A-A	500	1911	0 4	5 8	1 5	7 7	9	15	.75	50	0	1 25	20 5	.....
M	480	1921	.....	1 7	4 7	6 4	8	4	1 35	60	30	2 25	9 9	2
Y	260	1913	.....	2 2	0 7	2 9	7	3	70	30	0	1 00	15 9	.....
Ave. or Total	413	.....	0 4	9 7	6 9	17 0	24	22	2 80	1 40	30	4 50	14 7	2
WEIR SAND														
X	200	1913	.....	1 3	0 5	1 8	6	0	.75	0	0	.75	12 0	.....
Z	380	1913	.....	2 9	1 1	4 0	8	0	1 00	0	0	1 00	10 5	.....
Ave. or Total	290	.....	.....	4 2	1 6	5 8	14	0	1 75	0	0	1 75	11 4	.....
Grand Ave. or Total	.....	.....	46 1	204 6	184 2 17 5	434 9 17 5	516	.....	120 95	18 1	31 95	.....	.....	17 5
					201 7	452 4								

†12-31-1921.

KANAWHA POOL

SUMMARY SHOWING

GAS RESERVES AND PRODUCTION OF PROVEN AREAS

Area	Average Initial Rock Pressure	Date Average Initial Rock Pressure	Production Estimated previous 1913 Bil. Cu. Ft.	Production Calculated 1913-1923 inclusive Bil. Cu. Ft.	Est. Future Reserves to 0 lb. Rock Bil. Cu. Ft.	Estimated Total Production to 0 lb. Rock Bil. Cu. Ft.	Total Number Company Wells	†Number Foreign Wells	Square Miles Attributable to Company Wells	Square Miles Attributable to Foreign Wells	Square Miles Attributable to Undrilled Acreage	Total Square Miles in Area	Total Prod. per lb. per Sq. Mi. Mil. Cu. Ft. based on Sq. Mi. Att. to Co. Wells	Estimated Additional Reserves in Undrilled Parts
*A	405	1917		2 3	0 2	2 5	10	Not figured, as area is small with many foreign wells; also all wells producing both oil and gas.						
*B	417	1917		3 8	1 1	4 9	4	1	0 7	0 2	0	0 9	16 8	
*C	488	1917		5 0	4 5	9 5	5	0	0 8	0	0 1	0 9	24 3	0 1
D	460	1917		3 5	0 8	4 3	14	Not figured, as area is small with many foreign wells; also all wells producing both oil and gas.						
E	468	1917		12 1	4 2	16 3	11	0	1 9	0	0	1 9	18 3	
F	480	1917		10 9	8 6	19 5	12	0	2 3	0	0 2	2 5	17 7	0 2
Total *Cabin Creek G. Co.	437			11 1	5 8	16 9	19							0 1
Total United Fuel G. Co.	469			26 5	13 6	40 1	37							0 2
Total or Average Cabin Creek G. Co. & United Fuel G. Co	453			37 6	19 4	57 0	56							0 3
Total or Ave. Areas B, C, E & F	463			31 8	18 4	50 2	32		5 7	0 2	0 3	6 2	19 0 (a)	0 3

*Wells in Areas A, B and C are Cabin Creek Gas Company wells. †12-31-1921.

Note: There were very few rock pressure tests taken in this field, particularly on the Cabin Creek Gas Company's wells.

(a) Calculation of Production Factor for areas B, C, E and F:

(1) Total production to 0 lb. rock pressure ..... 50.2 Billion Cu. Ft.
(2) Acreage attributable to the production given in (1) ..... 5.7 Square Miles
(3) Average initial rock pressure of B, C, E and F ..... 463 Pounds

$$\text{Production Factor} = \frac{5.02 \text{ Billion Cu. Ft.}}{5.7 \text{ (Sq. Mi.)} \times 463 \text{ (lb.)}} = 19.0 \text{ million cu. ft. per square mile per pound drop in rock pressure}$$

TRIPLE STATE FIELD

ESTIMATION OF GAS RESERVES BY AREAS OF PROVEN POOLS AND CALCULATION OF PRODUCTION FACTOR

Area	Average Initial Rock Pressure	Date Average Initial Rock Pressure	PRODUCTION IN BILLION CUBIC FEET				Total Company Wells	CALCULATION OF PRODUCTION FACTOR				
			Estimated Previous 1913	Calculated 1913-1923 inclusive	Estimated Reserves to 40 lb.	Estimated Total		Square Miles Attributable to Company Wells	Square Miles Attributable to Foreign Wells	Square Miles Attributable to Undrilled Acreage	Total Sq. Miles in Area	Production per lb. Loss per Sq. Mile Million cu. ft.
ALL SANDS (SALT, MAXON, BIG LIME AND INJUN)												
All Wells	(a) 318	1913	(b)	15.5	(c) 9.5	(d) 25.0	65	22.8	0.5	0	23.3	(e) 3.9

(a) Unable to obtain accurate initial rock pressure.
(b) Estimate of production prior to 1913 not made on account of insufficient data.
(c) Economic Limit taken at 40 lb. on account of water conditions and past abandonment of wells at higher pressures.
(d) Production taken between 318 lb. rock pressure and 40 lb. rock pressure.
(e) Production Factor:

(1) Production between 318 lb. rock pressure and 40 lb. rock pressure ..... 25.0 Billion Cu. Ft.
(2) Drop in rock pressure ..... 278 Pounds
(3) Acreage attributable to this production ..... 22.8 Square Miles

$$\text{Production Factor} = \frac{25.0 \text{ Billion Cu. Ft.}}{22.8 \text{ (Sq. Mi.)} \times 278 \text{ (lb.)}} = 3.9 \text{ million cu. ft. per square mile per pound drop in rock pressure}$$

TABLE NO. 2

Gas Reserve of Probable Acreage

SUMMARY SHOWING PROBABLE GAS RESERVES

Area	Class of Territory	LOCATION		Sand	Square Miles of Company Acreage	Production Factor Used	Rock Pressure Used	Factor	Est. Reserves to 0 lb. Rock Bil. Cu. Ft.
		Sheet No.	Farm Map						
CLENDENIN FIELD									
209	Probable	2	29	Injun	0 2				
210	Probable	2	28, 37, 38	Injun	1 4	7 1	505	25%	1 3
211	Probable	2	37, 38	Injun	5 7	7 1	507	75%	15 4
213	Probable	2	29, 39	Injun	17 3	7 1	510	65%	40 7
304	Probable	3	47	Injun	1 5	7 1	500	75%	4 0
307	Probable	2, 3	38, 48, 49	Injun and Weir	22 0	7 1	485	75%	56 8
316	Probable	3	47, 48	Injun	12 7	7 1	462	75%	31 2
Total					60 8				149 4
SPENCER FIELD									
204	Probable	2	9, 19	Berea	1 1	5 9	635	25%	1 0
205	Probable	2	18	Berea	1 2	5 9	811	25%	1 4
207	Probable	2	18, 19	Injun	1 7	9 0	615	25%	2 4
208	Probable	2	17, 18, 27, 28	Salt	9 5	5 2	610	25%	7 5
Total					13 5				12 3
KANAWHA FIELD									
322	Probable	3	47, 48, 57	Big Lime, Keener, Injun	8 1	7 1	340	75%	14 7
U. F. G. Co. 325	Probable	3	57, 58	Weir	22 2	19 0	400	50%	84 4
Cabin Creek 325	Probable	3	58	Weir	2 4	19 0	400	25%	4 6
330	Probable	3	57, 67	Big Lime	5 4	3 0	330	75%	4 0
332	Probable	3	58, 68	Berea, Weir	4 1	4 0	558	100%	9 2
335	Probable	3	58, 68	Berea	1 8	4 0	540	100%	3 9
339	Probable	3	58, 68	Weir	5 1	19 0	500	50%	24 2
Total					49 1				145 0
TRIPLE STATE FIELD									
501, 502, 510	Probable	5	82, 83	Salt, Maxon, Big Lime, Inj.	12 2	3 9	330	100%	15 7
OUTLYING FIELDS IN LINCOLN, WAYNE, MINGO AND ADJOINING COUNTIES									
402	Probable	4	44	Berea	1 0	4 0	546	100%	2 2
403	Probable	4	45	Berea	1 0	4 0	558	50%	1 1
405	Probable	4	45, 54, 55	Berea	1 1	4 0	570	100%	2 5
408	Probable	4	55, 56, 65, 66	Big Lime and Berea	51 6	4 0	509	75%	78 8
411	Probable	4	53	Big Lime and Berea	0 1	4 0	550	100%	0 2
413	Probable	4	66, 75	Big Lime	1 5	3 0	330	100%	1 5
415	Probable	4, 5	73, 83	Big Lime	3 3	3 9	330	100%	4 2
419	Probable	4	74, 75	Big Lime	2 0	3 9	223	100%	1 7
Total					61 6				92 2
Grand Total					197 2				414 6

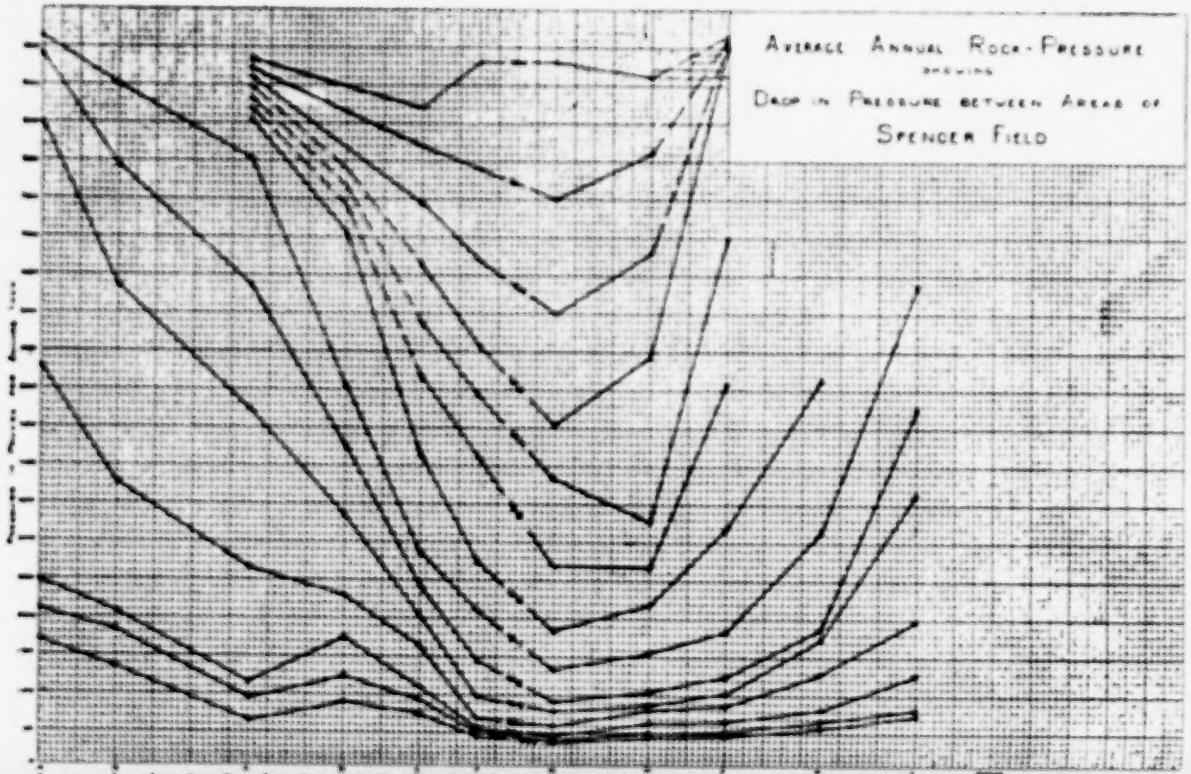
SECTION III

PRODUCTION GRAPHS

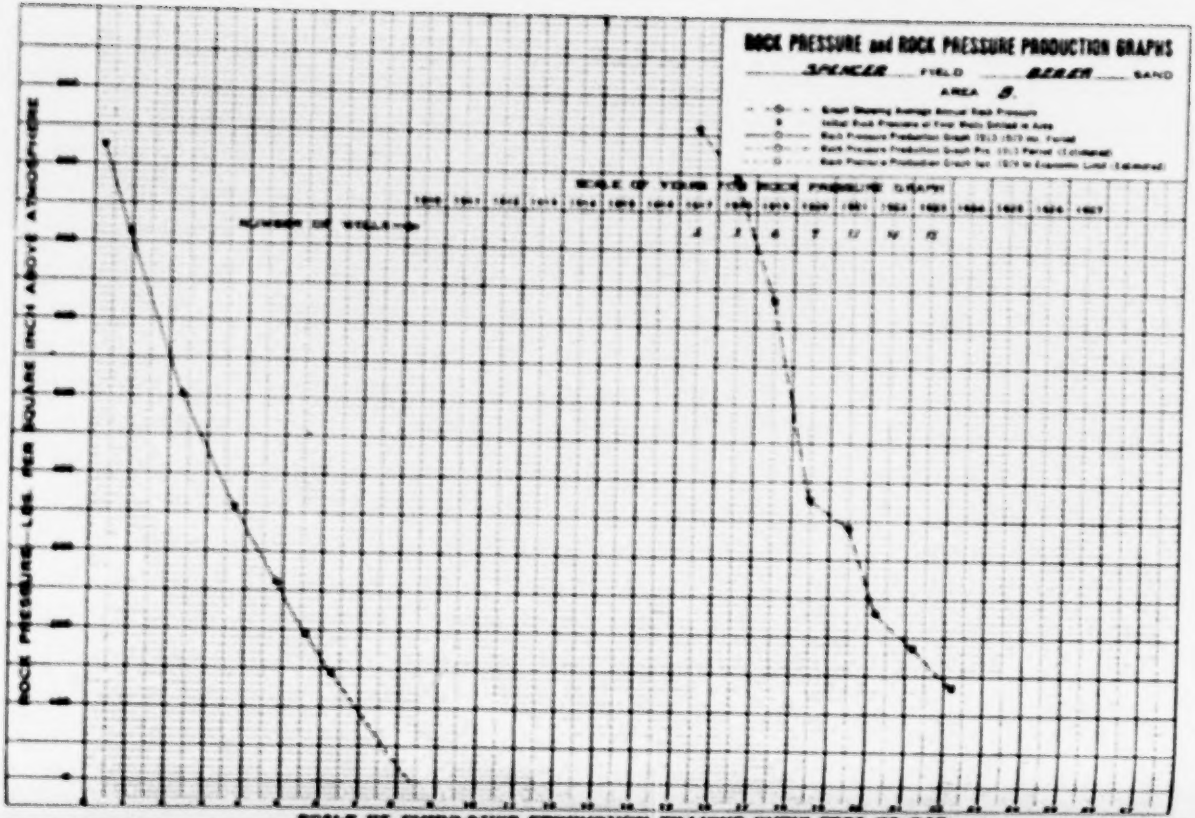
Rock Pressure Drop per Mile—Spencer Pool

Rock Pressure and Rock Pressure—Production Graphs

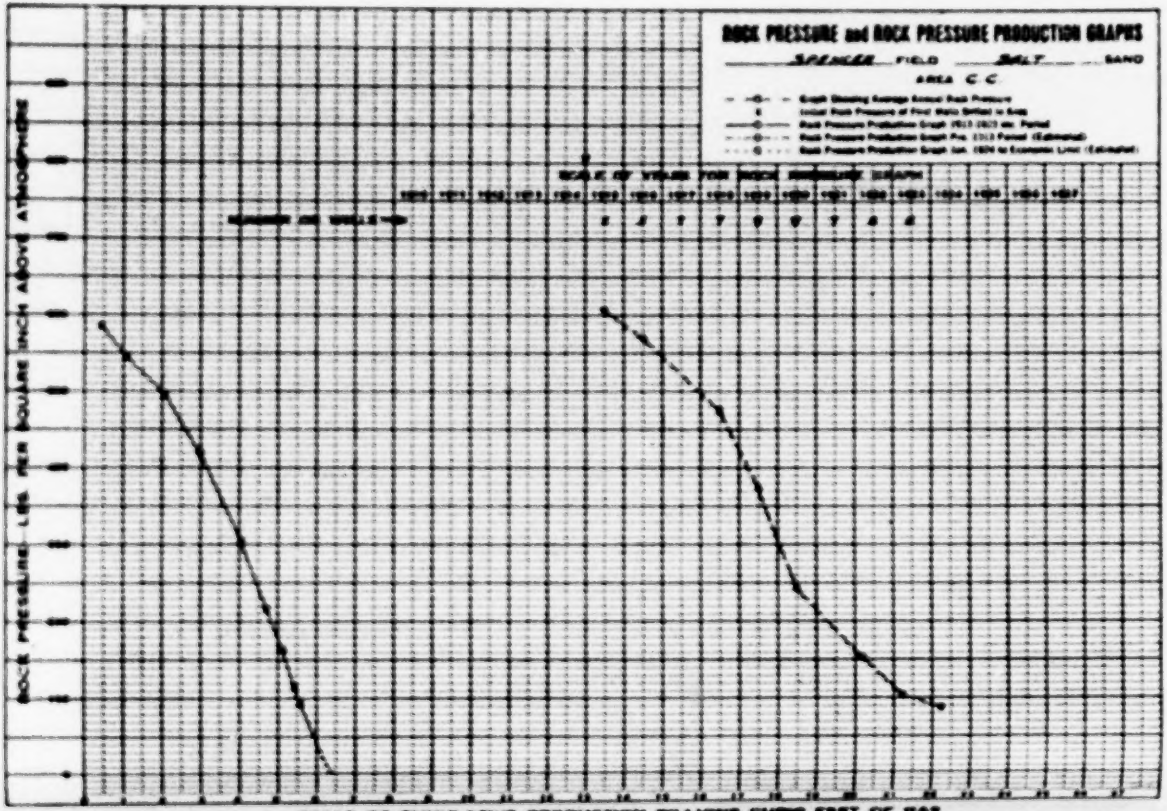
(Arranged by Fields and Areas)

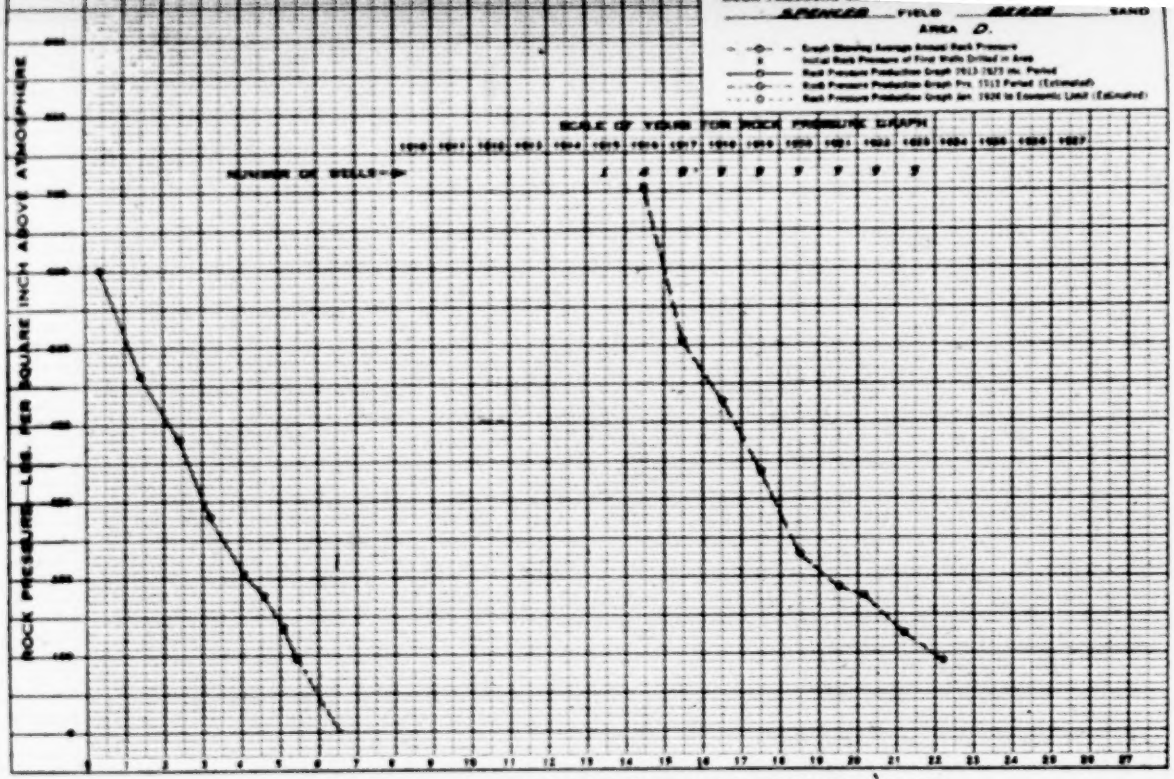

Average Annual Rock-Pressure
showing
Drop in Pressure between Areas of
Spencer Field

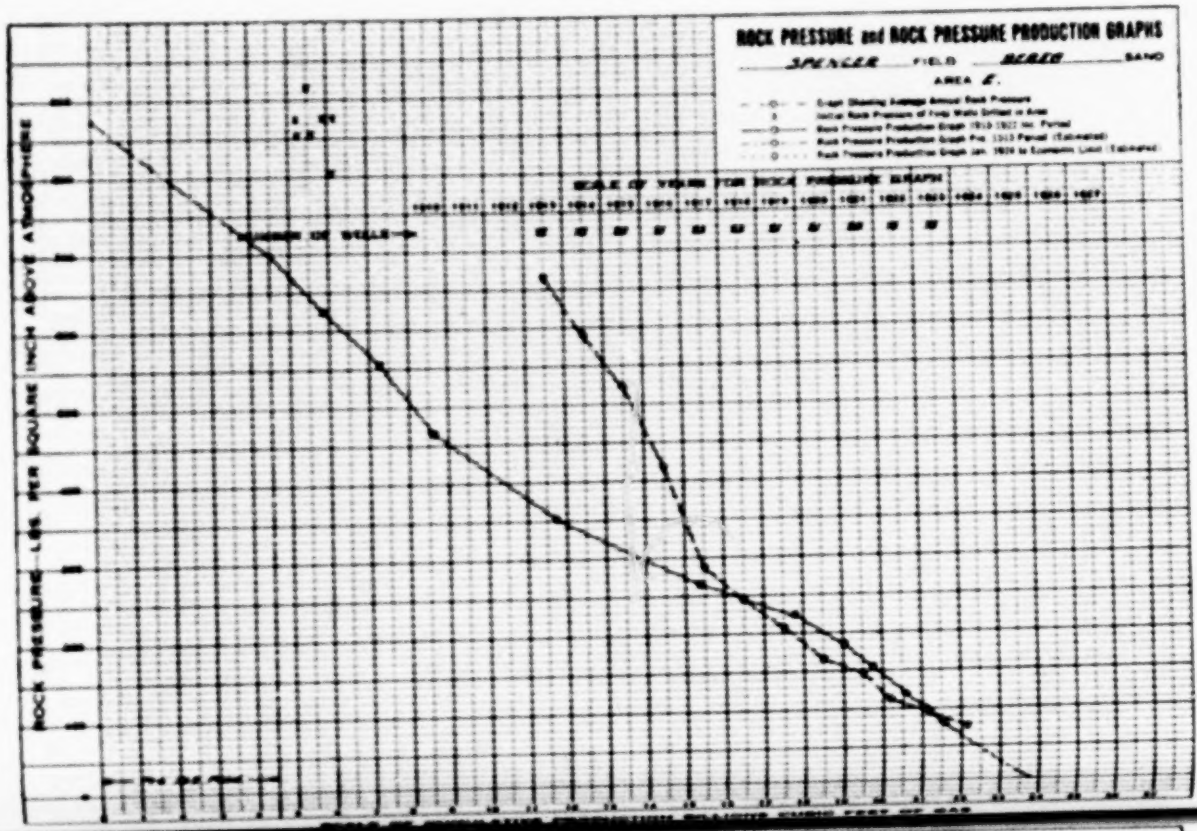
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

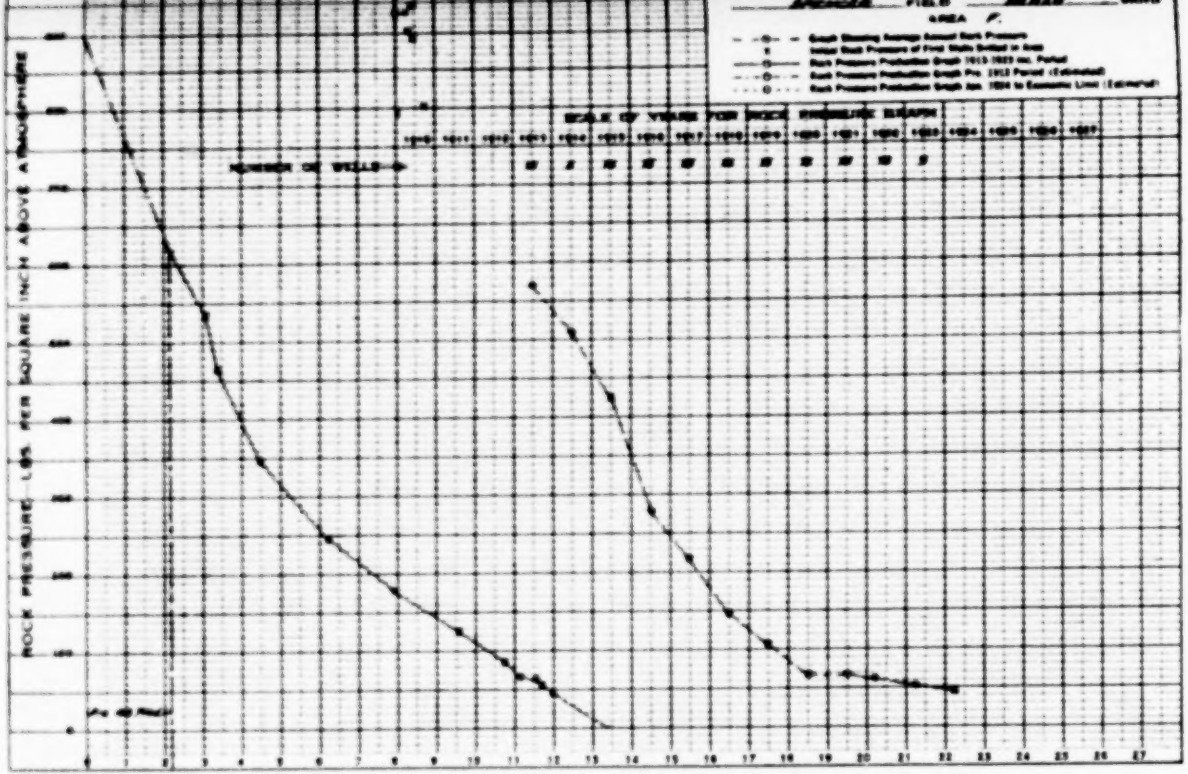

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
SPENCER FIELD BEREA SAND
AREA B
ROCK PRESSURE - LBS. PER SQUARE INCH ABOVE ATMOSPHERE
NUMBER OF WELLS
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
SCALE OF CUMULATIVE PRODUCTION INCLUDING CUBIC FEET OF GAS

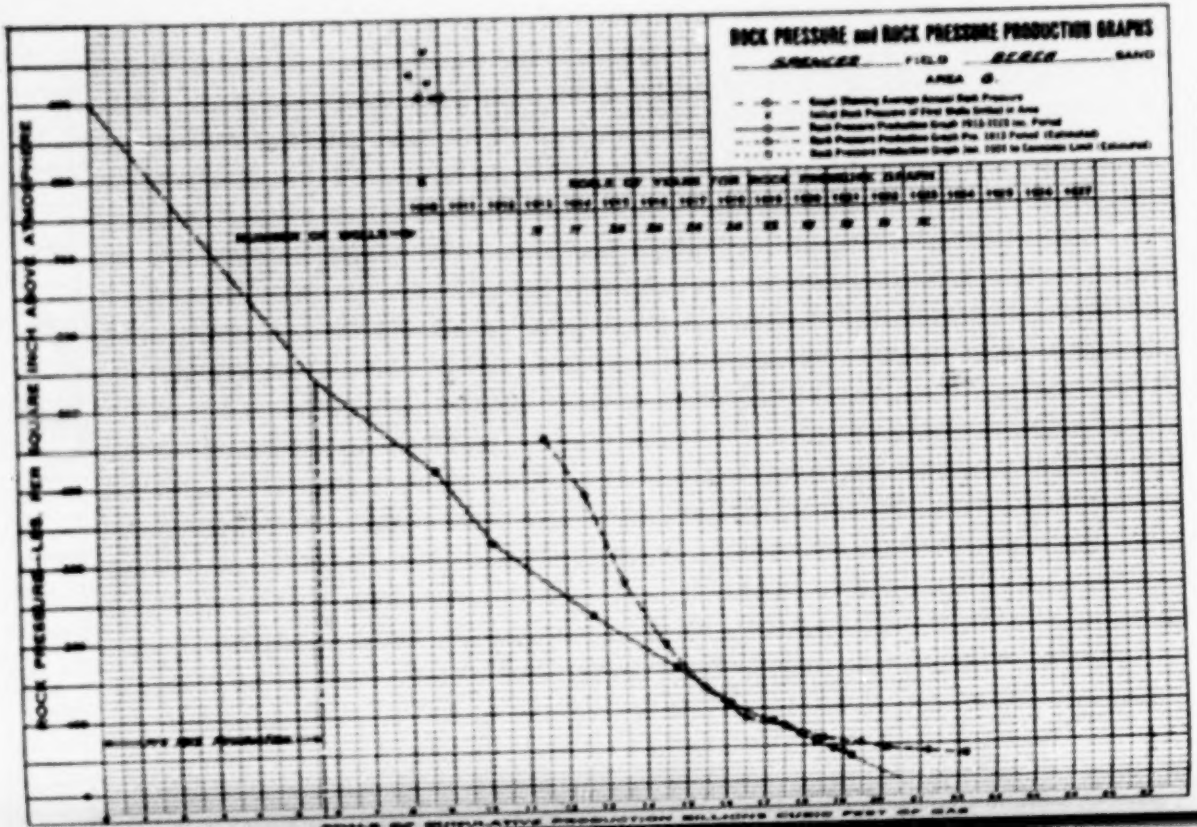
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

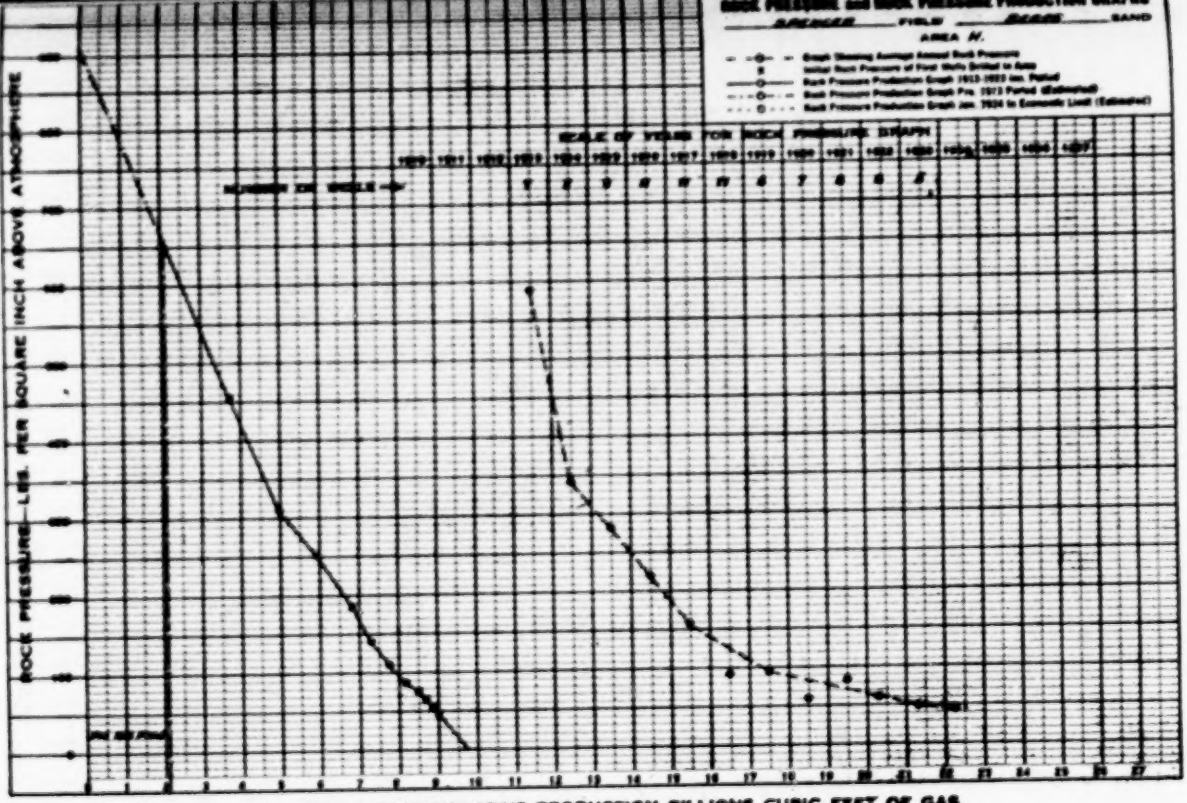

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
SPENCER FIELD SALT SAND
AREA C C
ROCK PRESSURE LBS PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

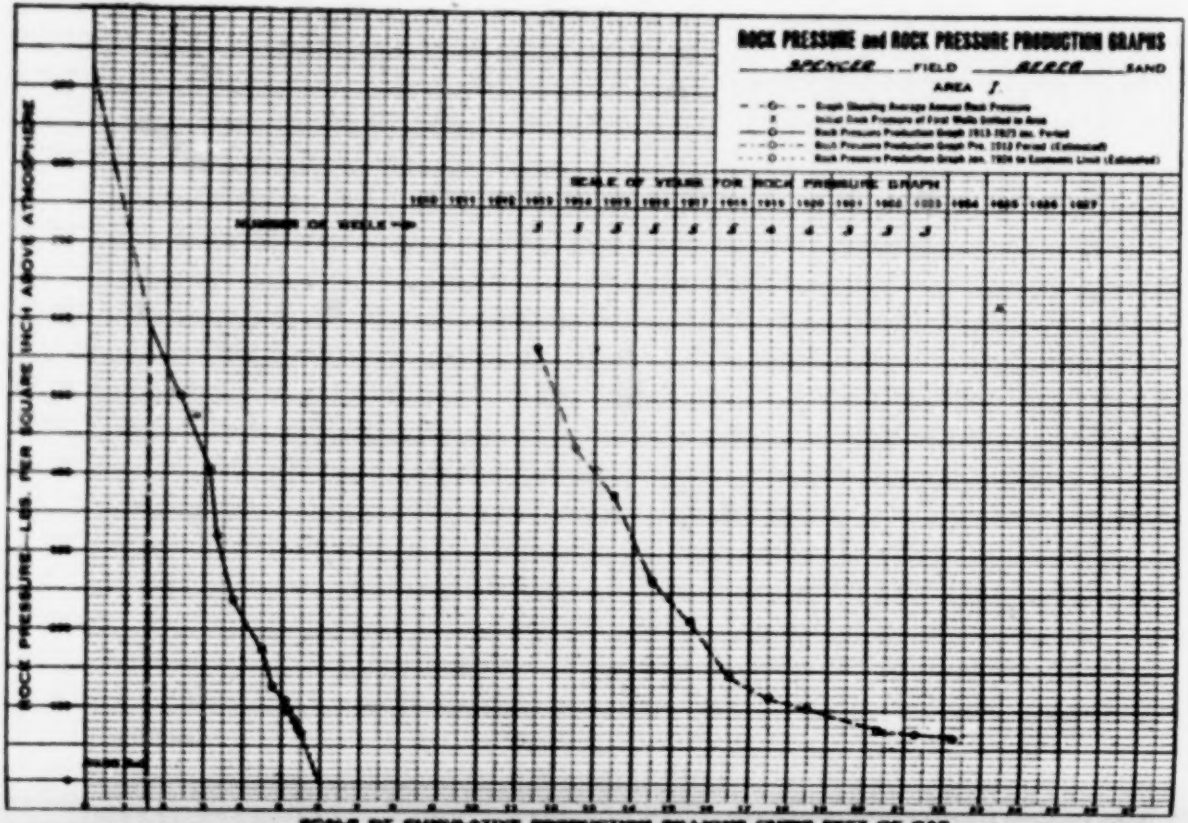

AREA D.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
SPENCER FIELD BEREA SAND
AREA E.
ROCK PRESSURE LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS

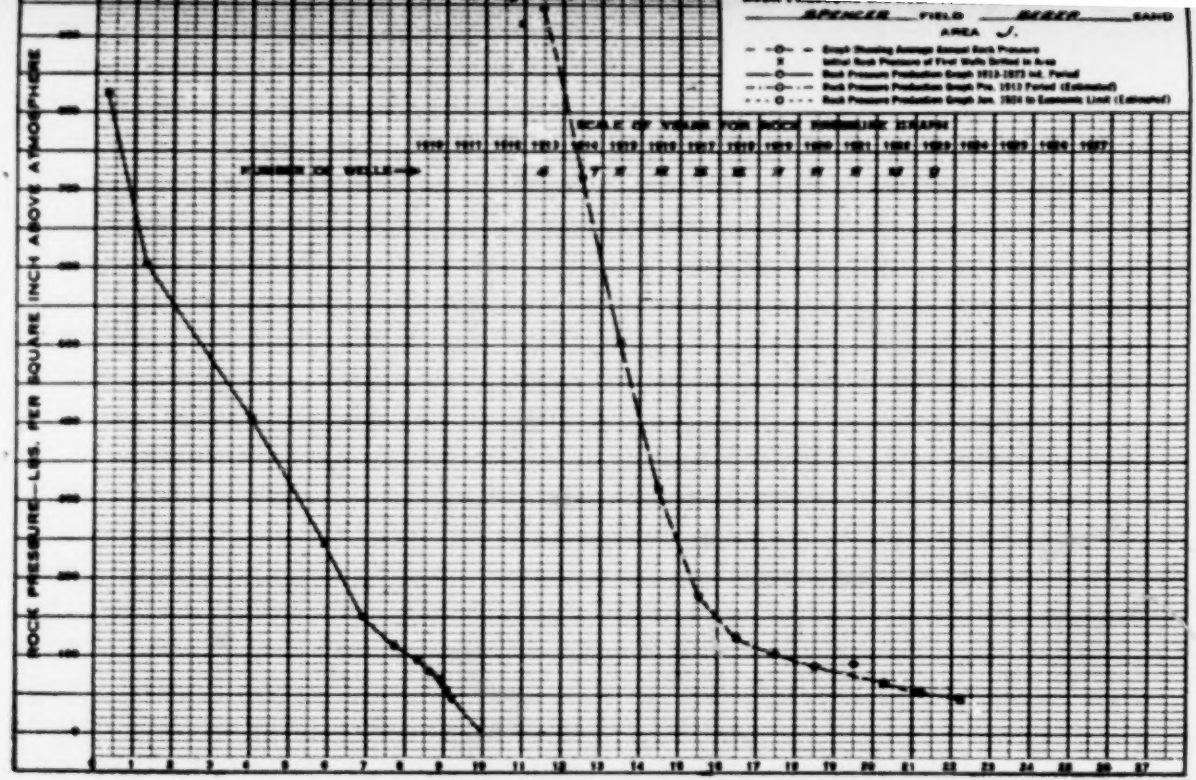

ROCK PRESSURE, LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

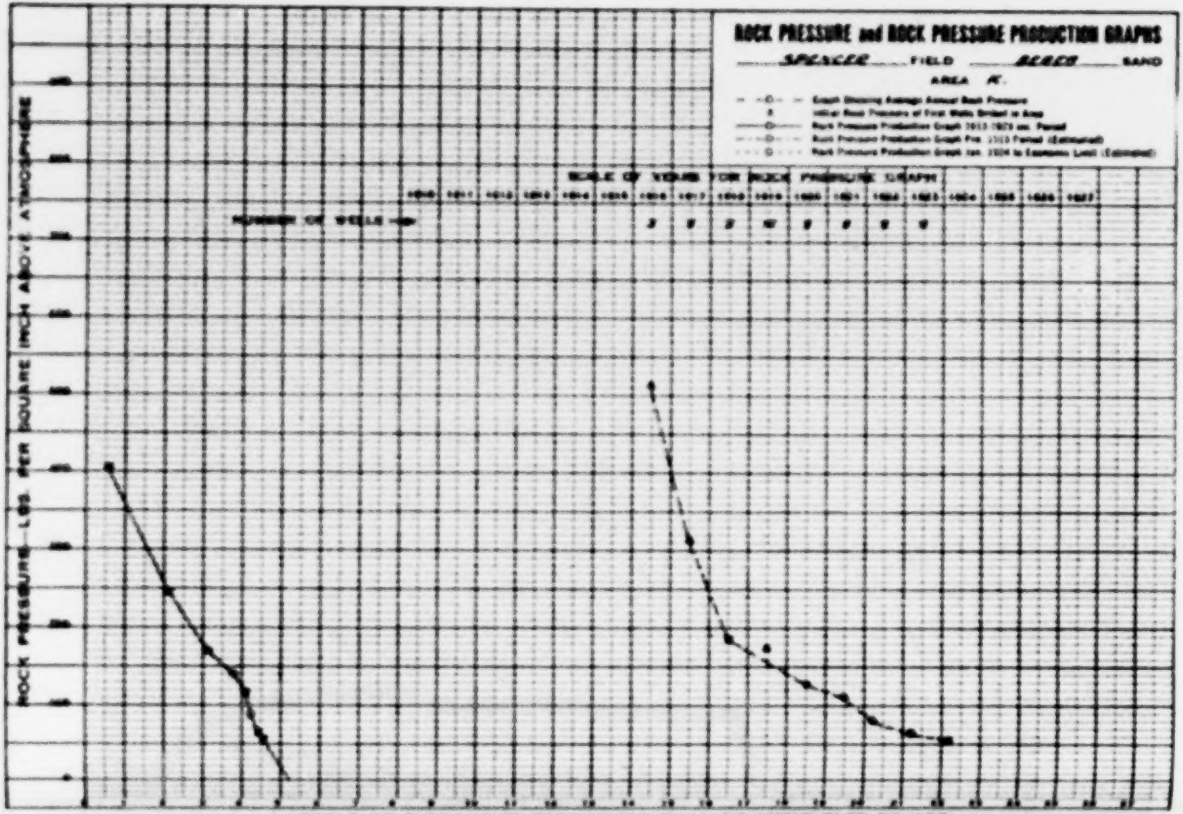

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
SPENCER FIELD SCREEN SAND
AREA B
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE

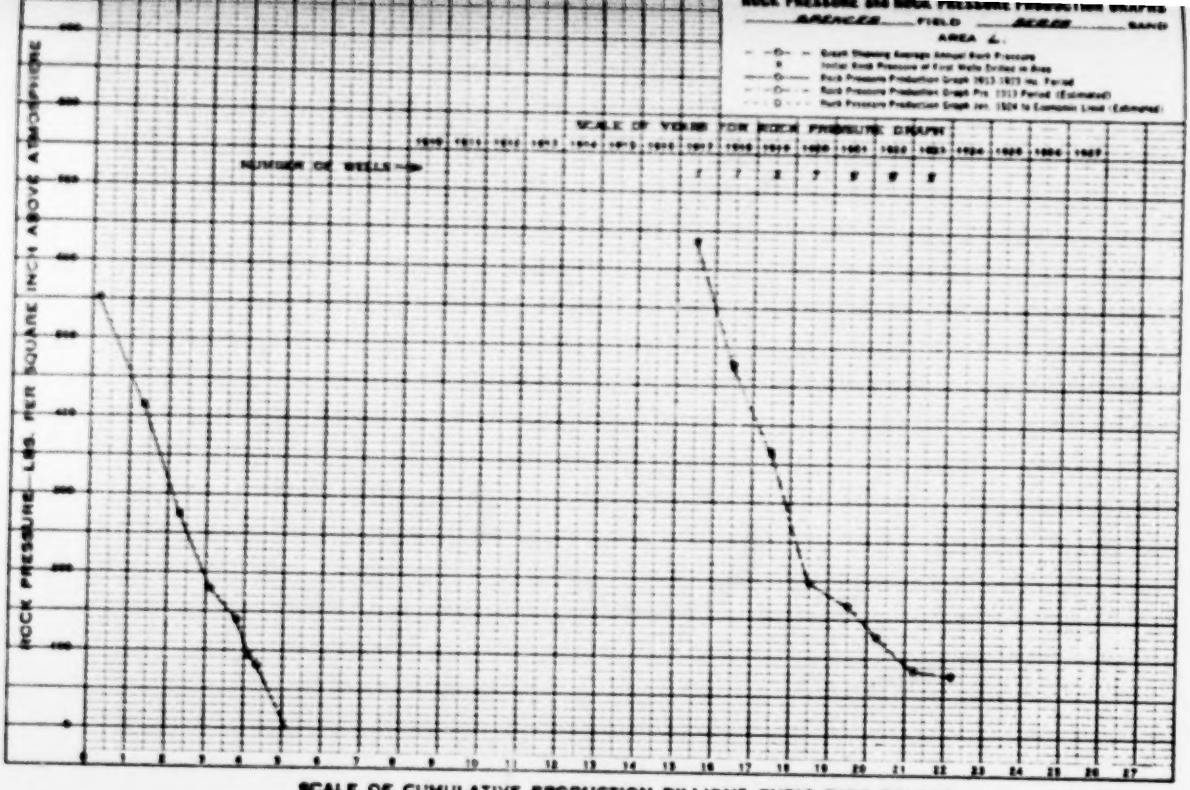

AREA IV.
SCALE OF YEARS FOR ROCK PRESSURE DROPS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

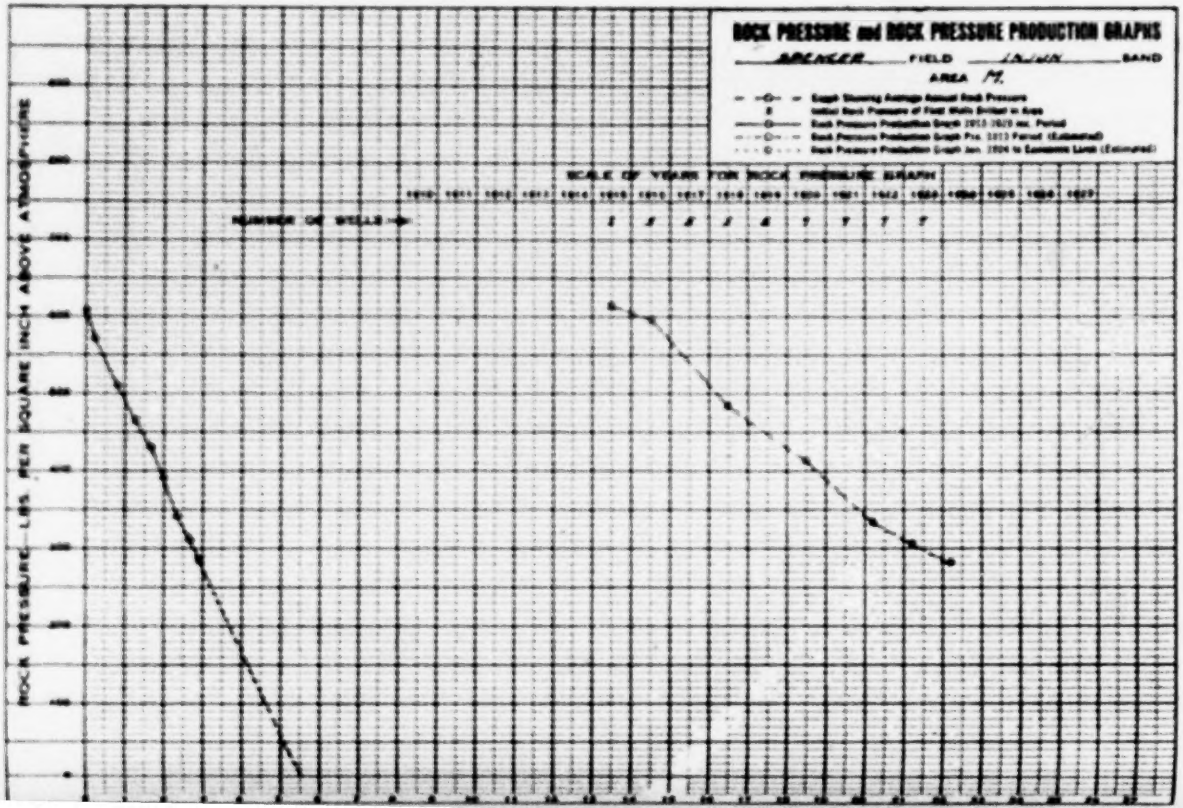

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
SPENCER FIELD
BEECH SAND
AREA 1
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION READING CUBIC FEET OF GAS

72


SPENCER FIELD BEEBE SAND
AREA J.
SCALE OF YEARS FOR ROCK PRESSURE DIAGRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

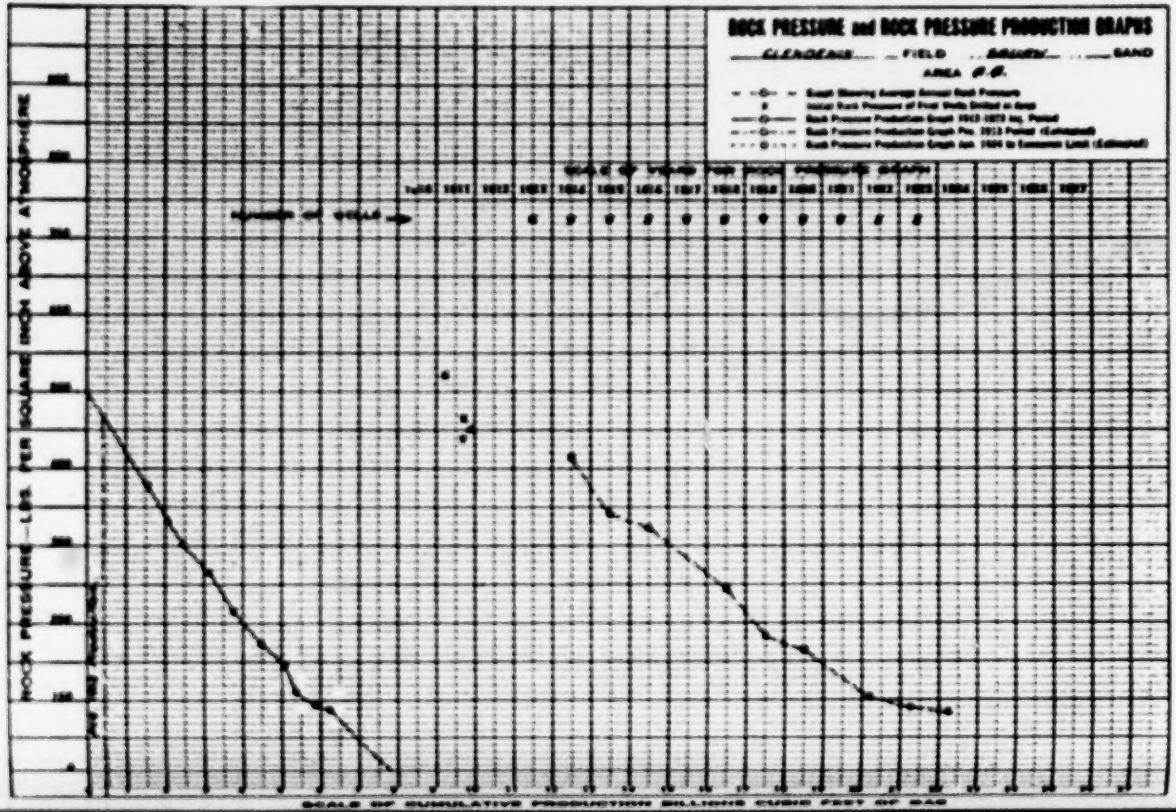

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
SPENCER FIELD BEECH SAND
AREA K.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

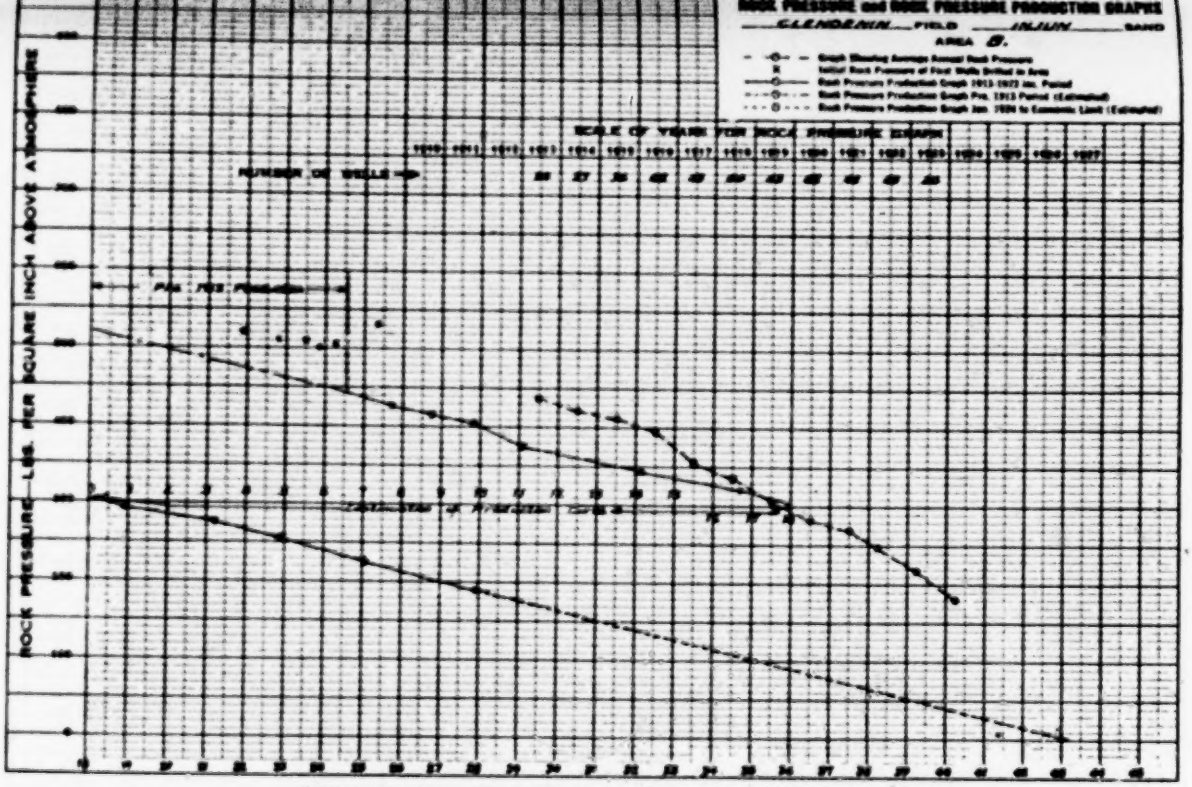

ROCK PRESSURE LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS
NUMBER OF WELLS
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
AREA 4.

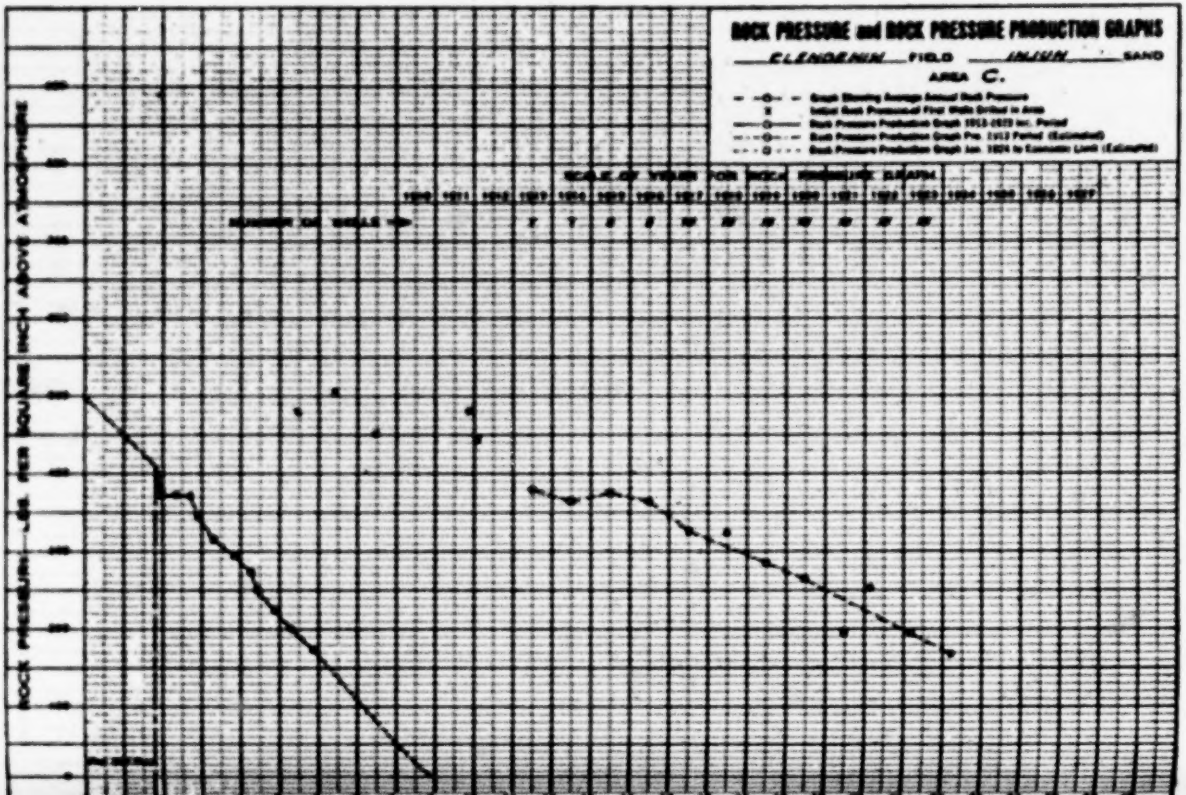

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
BRUNER FIELD LANSING SAND
AREA M.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE - LBS. PER SQUARE INCH ABOVE ATMOSPHERE

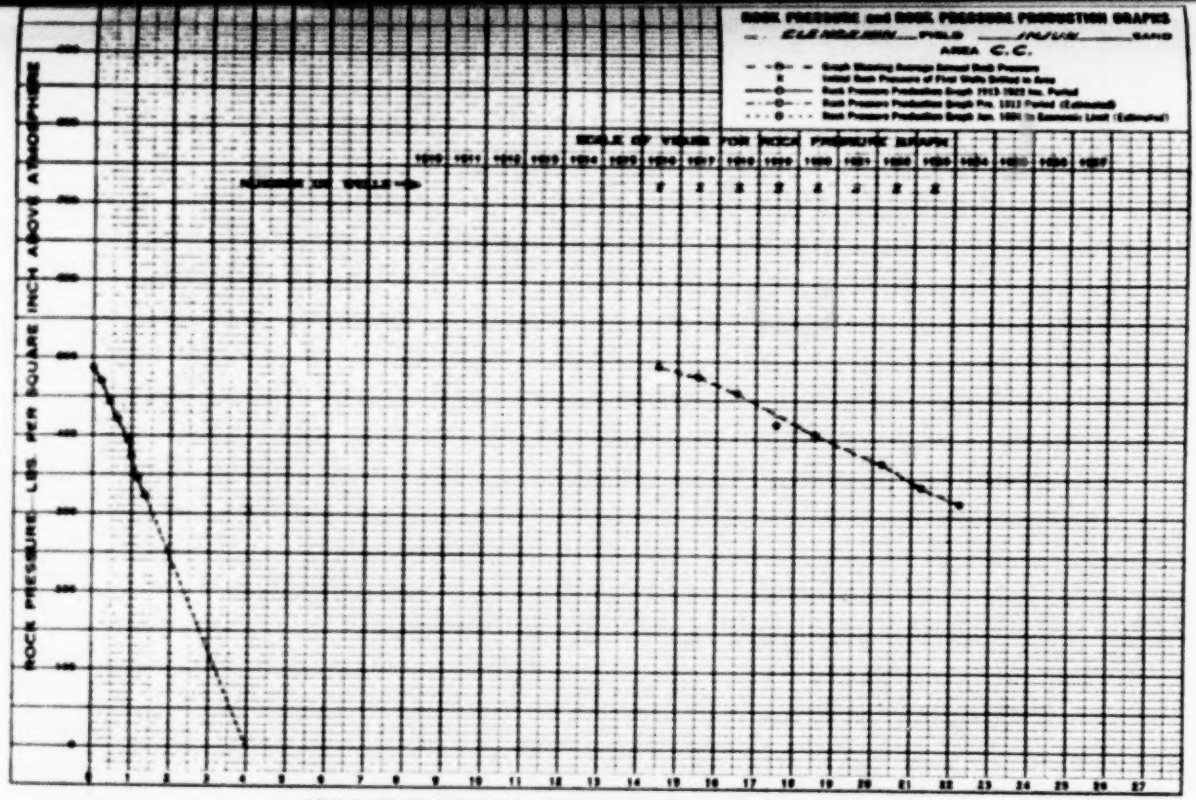
92

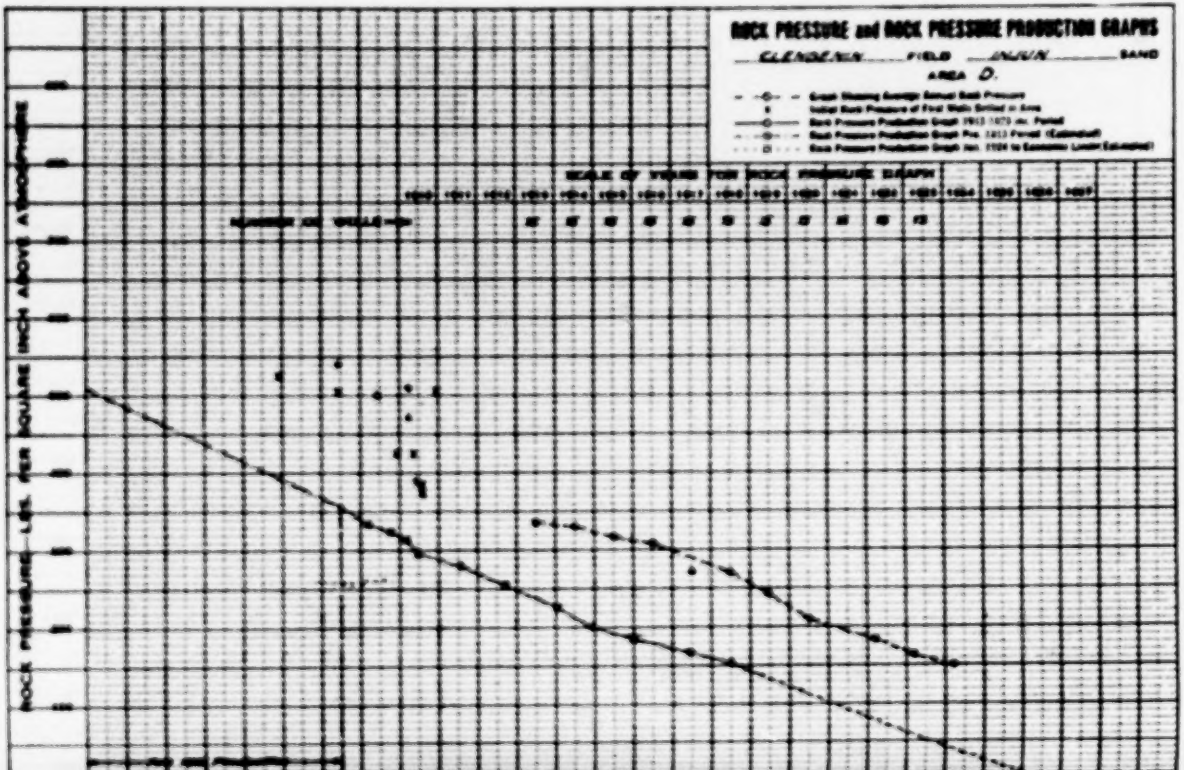
ROCK PRESSURE, LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

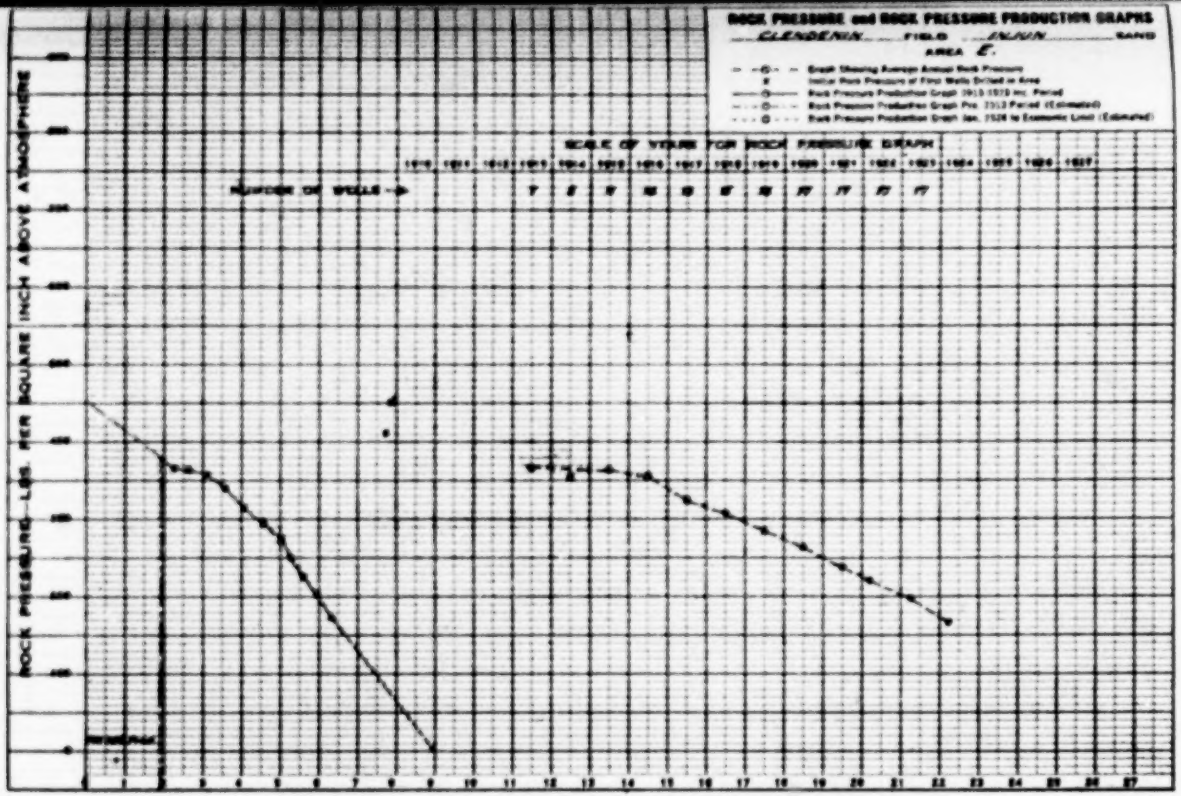

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLEARCAKE FIELD BOLIVIA SAND
AREA B.B.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

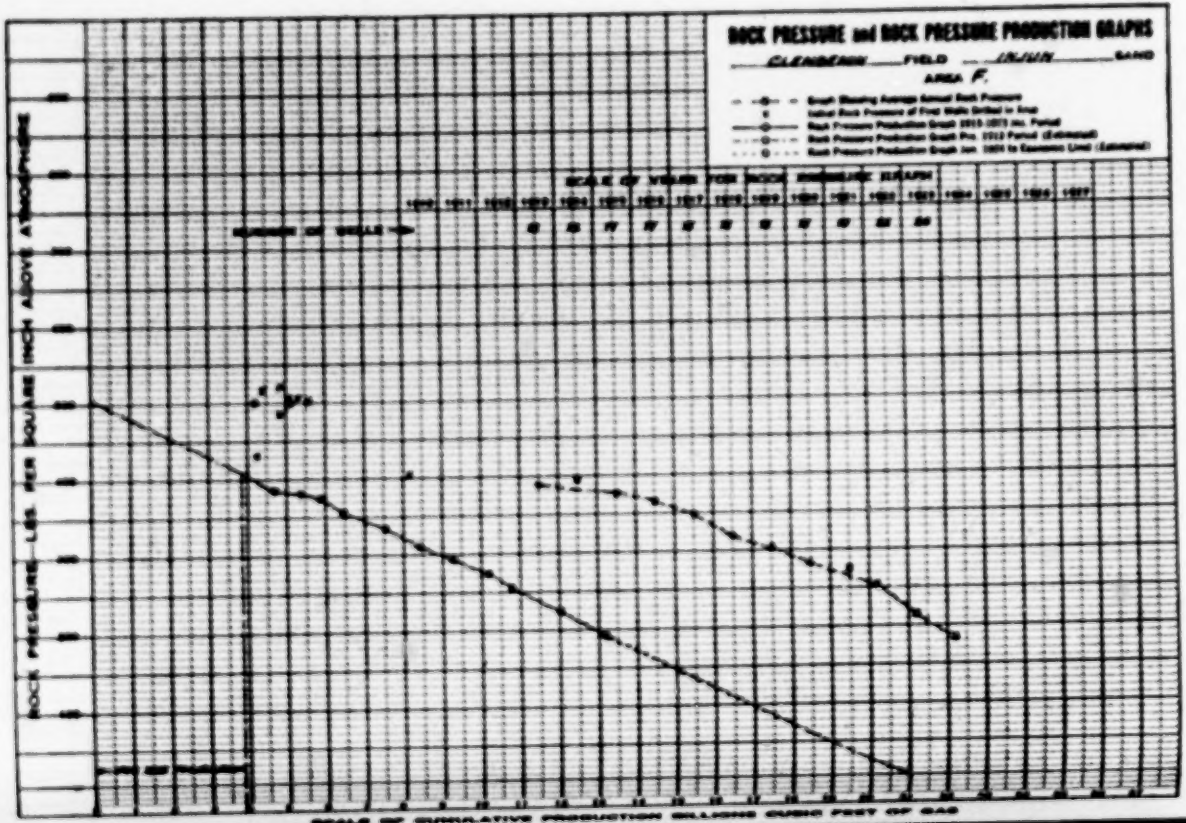

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
GLENDORA FIELD INJUN SAND
AREA B.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

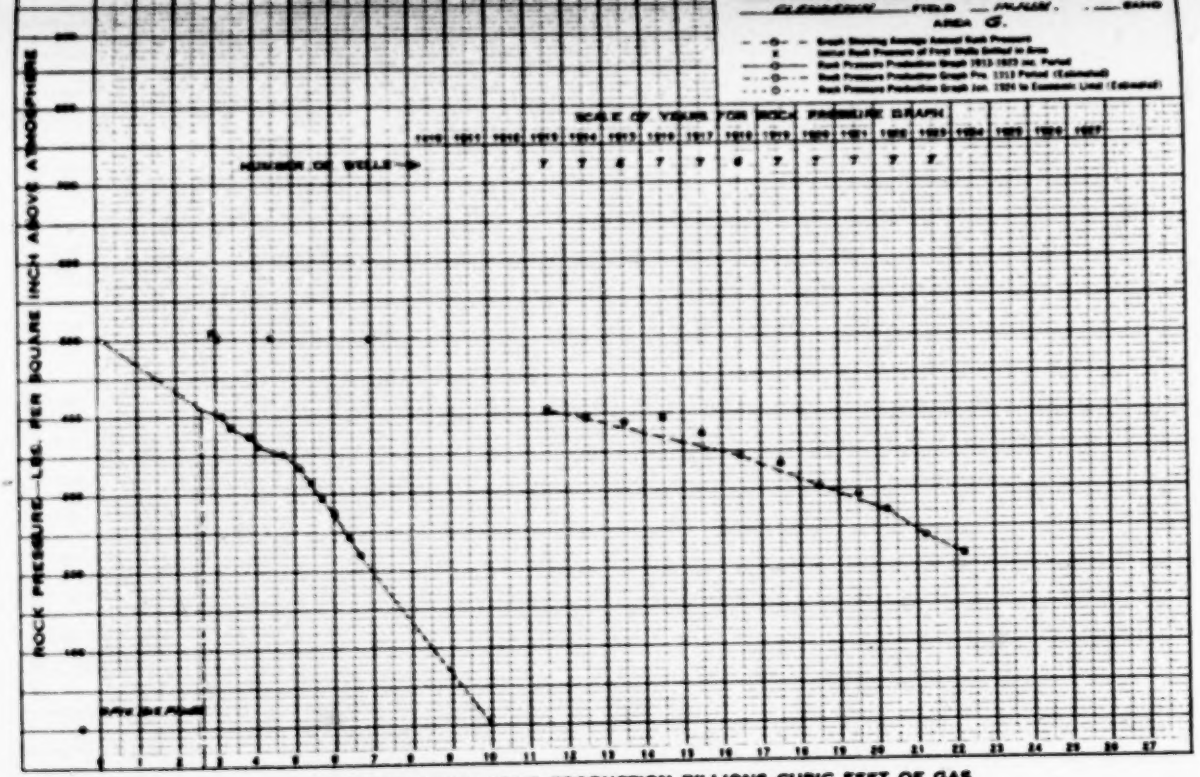

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLEVELAND FIELD INDIAN SAND
AREA C.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF YEARS FOR ROCK PRESSURE DEPTH
NUMBER OF WELLS

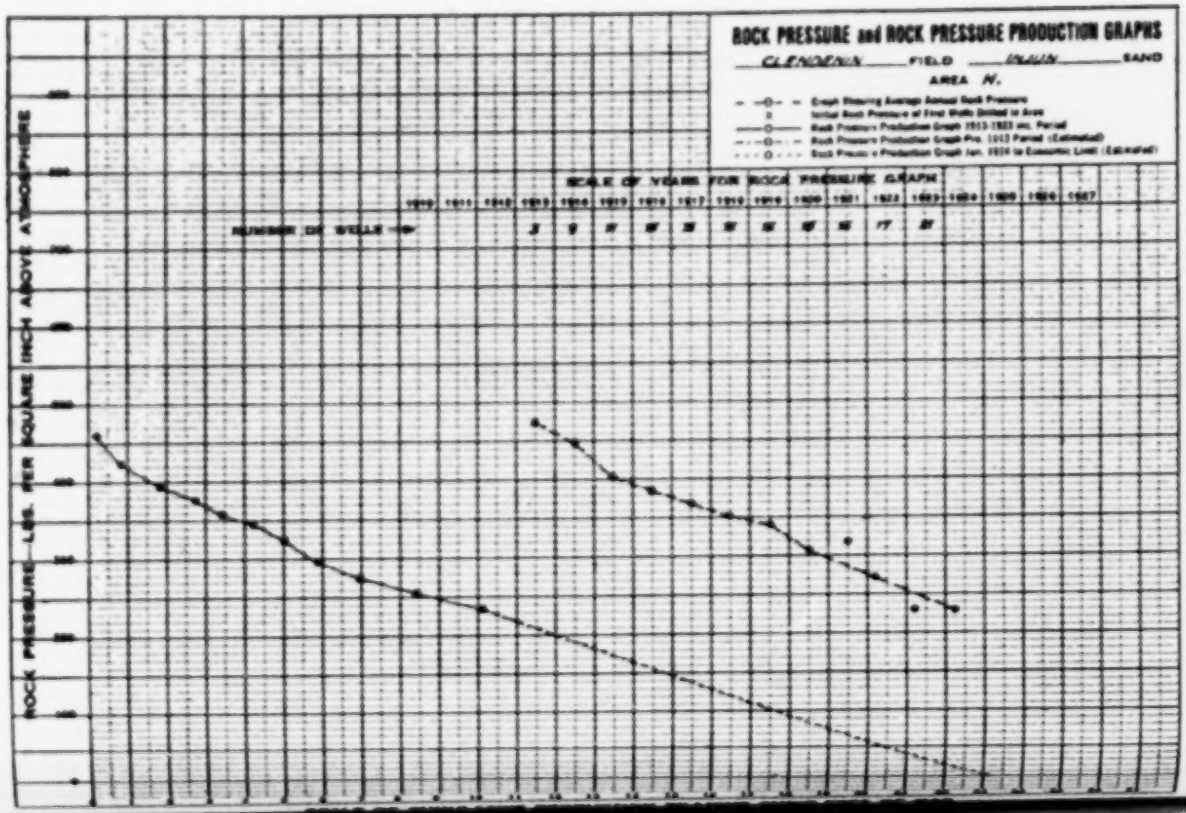

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLENDENIN FIELD INJUN SAND
AREA C.C.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

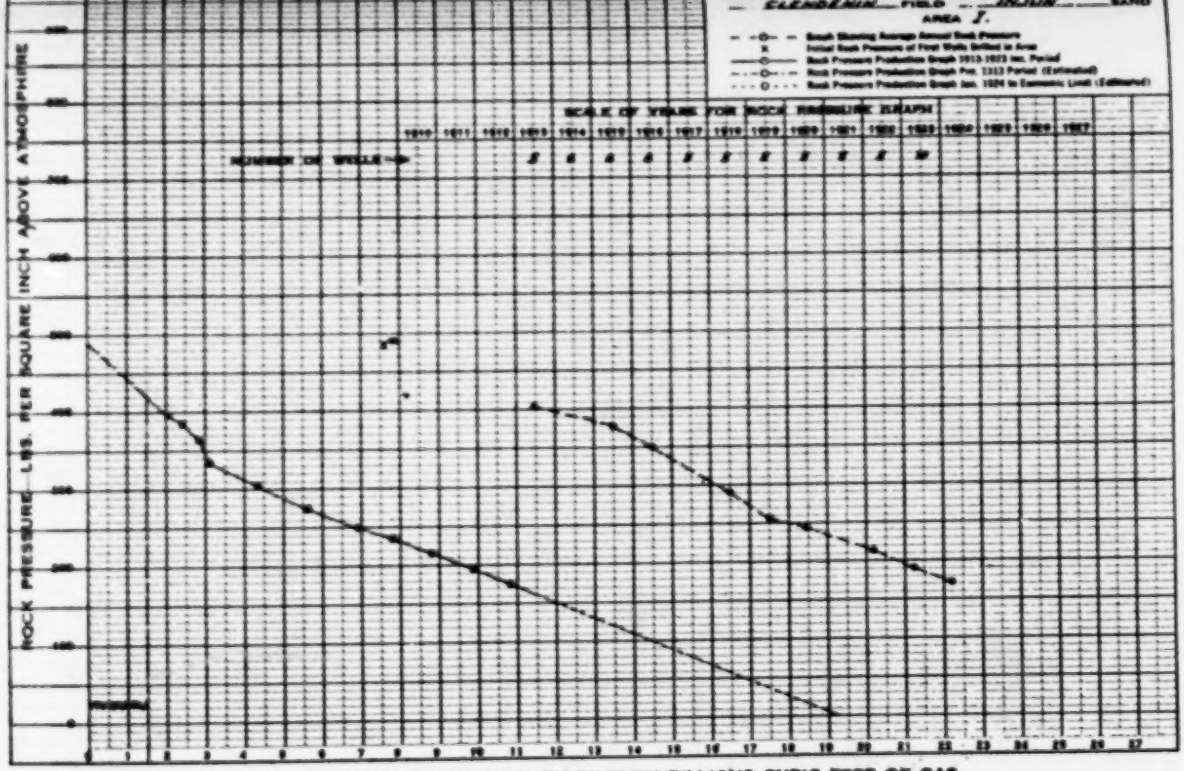

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLENDENIN FIELD ALLUVIAL SAND
AREA D.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
NUMBER OF WELLS
SCALE OF YEARS FOR ROCK PRESSURE GRAPH

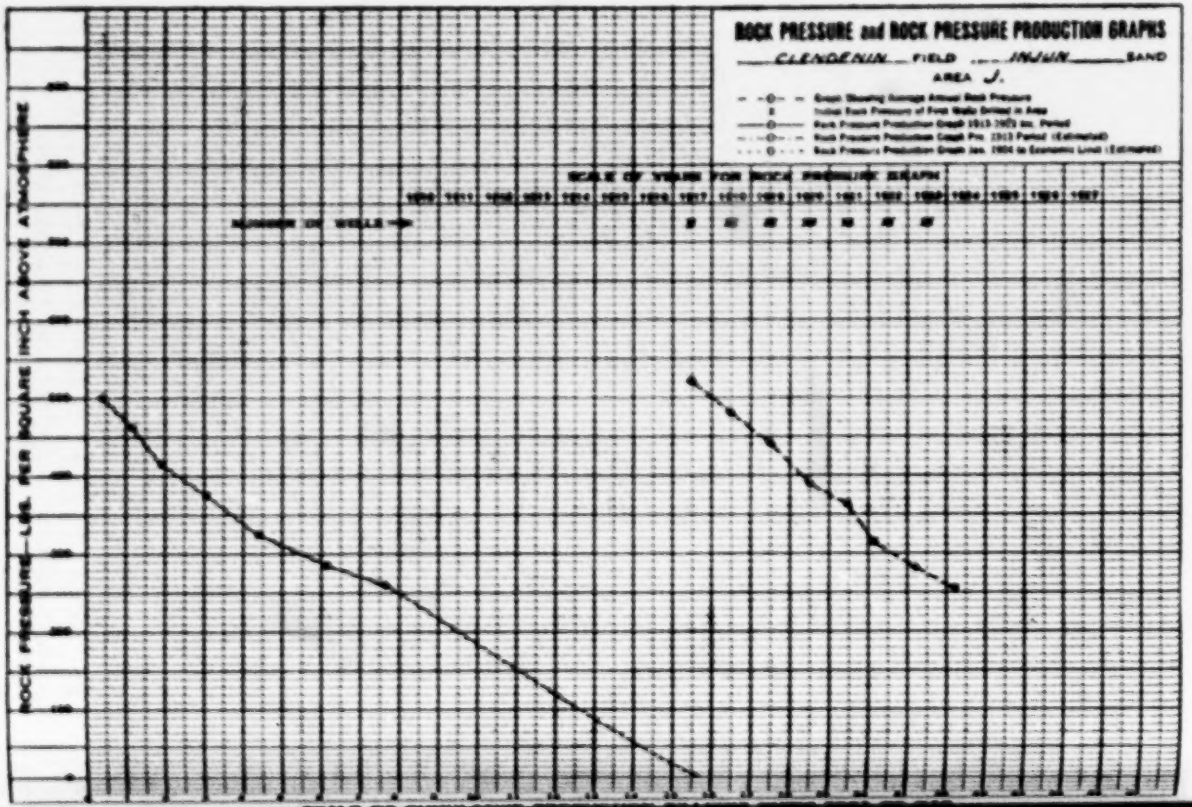

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
GLENDENIN FIELD ENJUN SAND
AREA E.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLENDENIN FIELD UNION SAND
AREA F.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION MILLIONS CUBIC FEET OF GAS

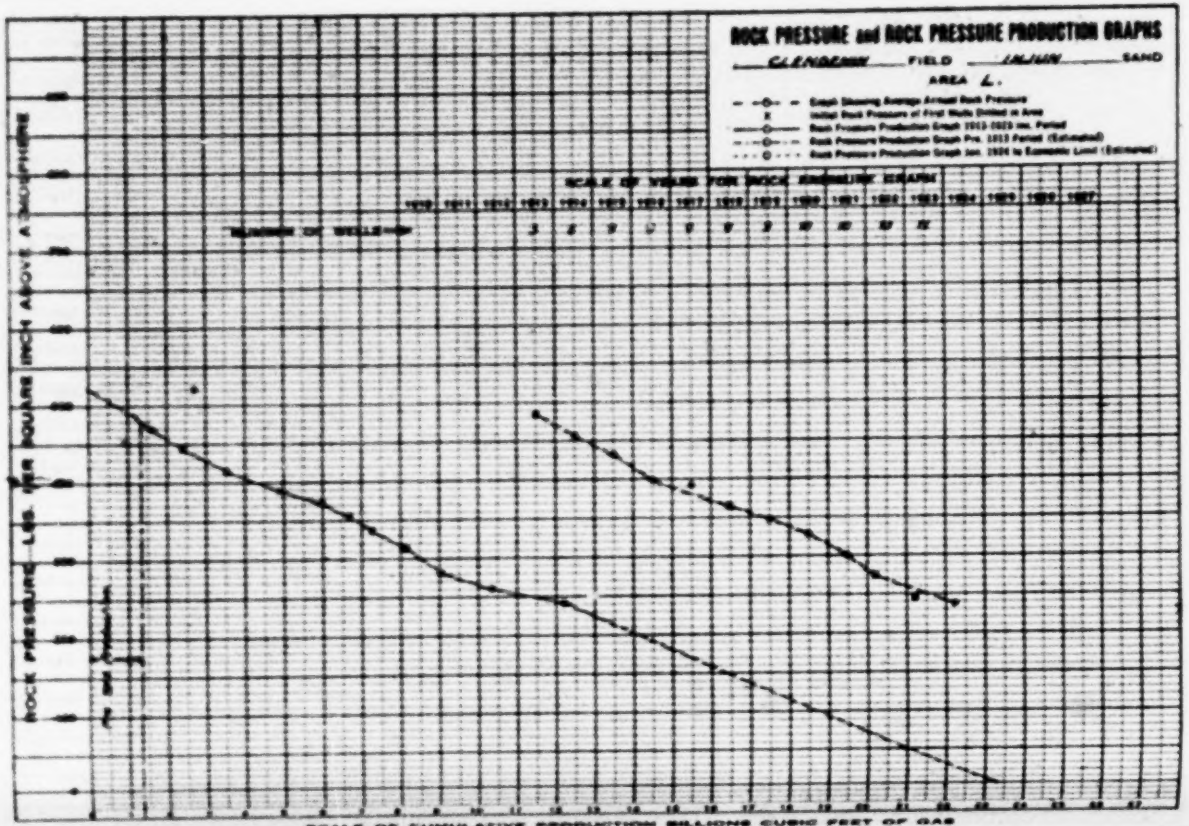

ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS

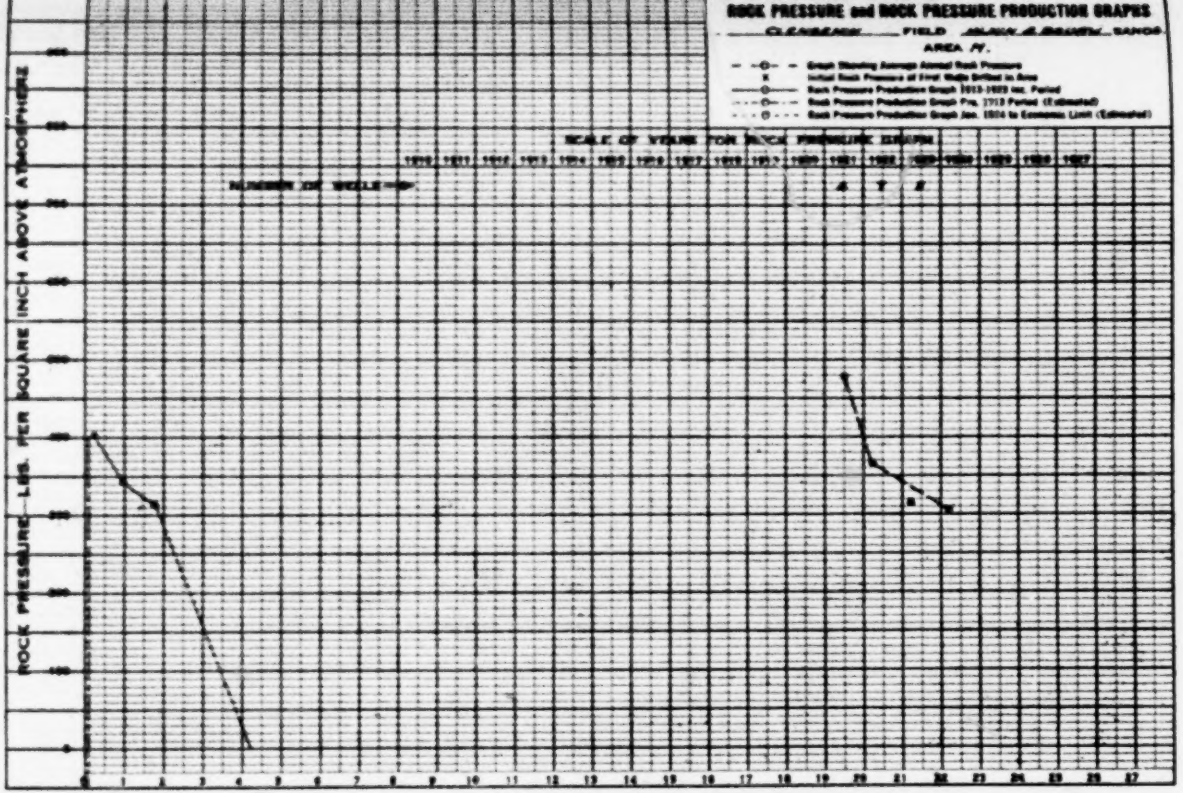

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
GLENCOAL FIELD IRWIN SAND
AREA N.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
1909 1911 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927
3 9 11 15 13 14 15 15 16 17 17


ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
AREA I.


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLENDENIN FIELD ... JUJUN SAND
AREA J.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS

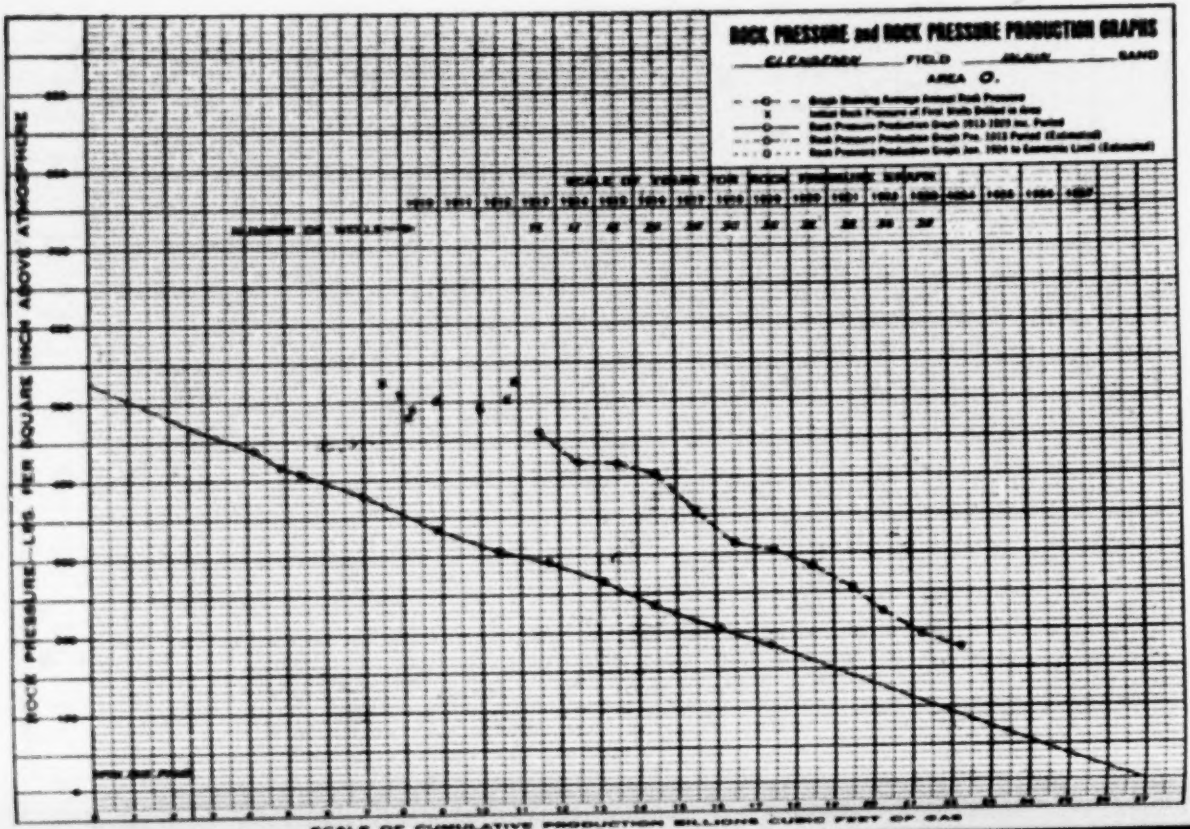
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
GLENDENNY FIELD UNION SAND
AREA L.
NUMBER OF WELLS
ROCK PRESSURE LBS. PER SQUARE INCH ABOVE A SINGLE PRESSURE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

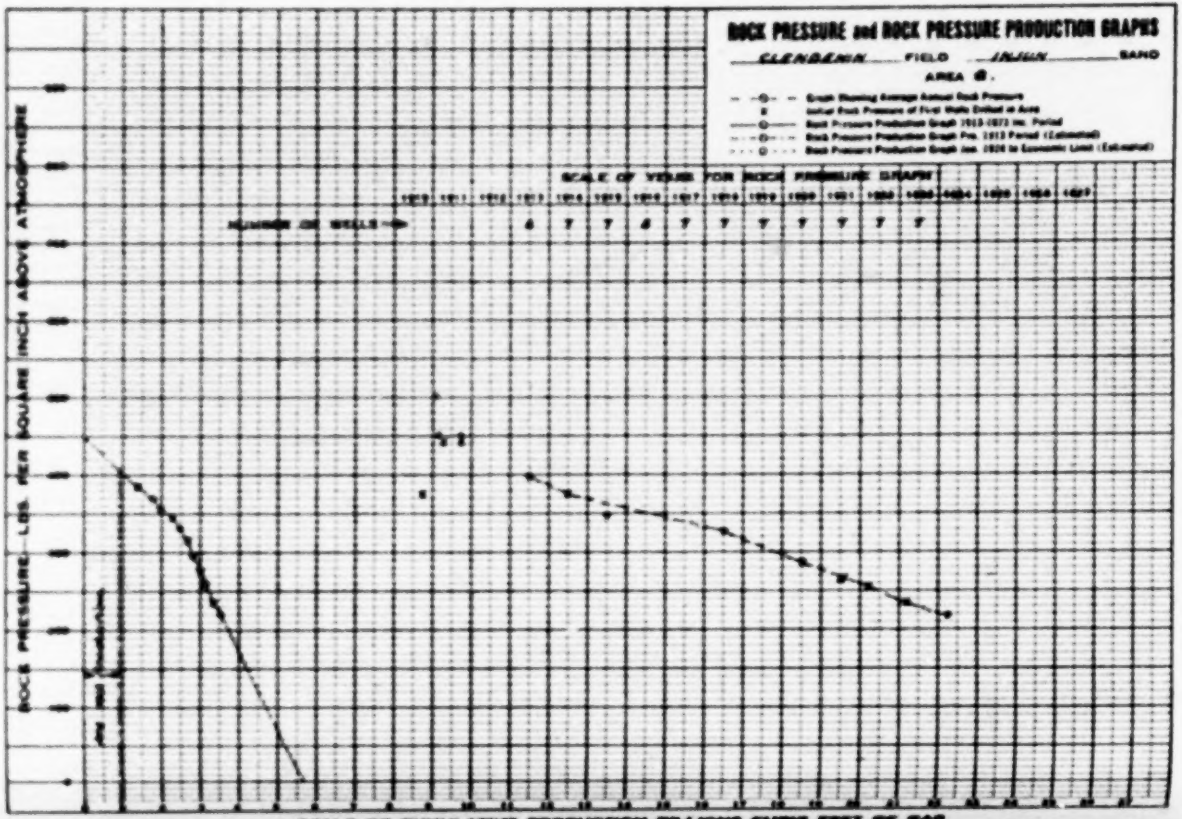

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLEARWATER FIELD SNAKE R. BASIN IDAHO
AREA IV.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
4 7 2
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

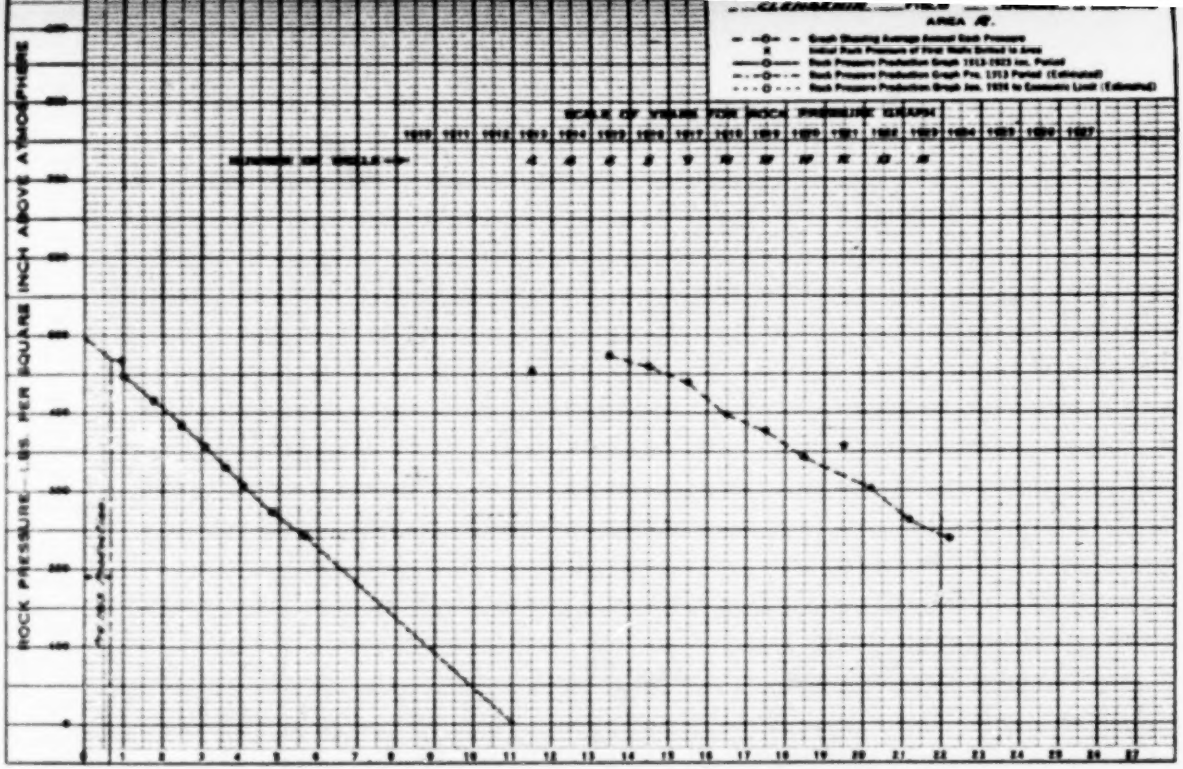
ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CALEDONIA
FIELD
AREA
SAND
SCALE OF VALUES FOR ROCK PRESSURE DATUM
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE

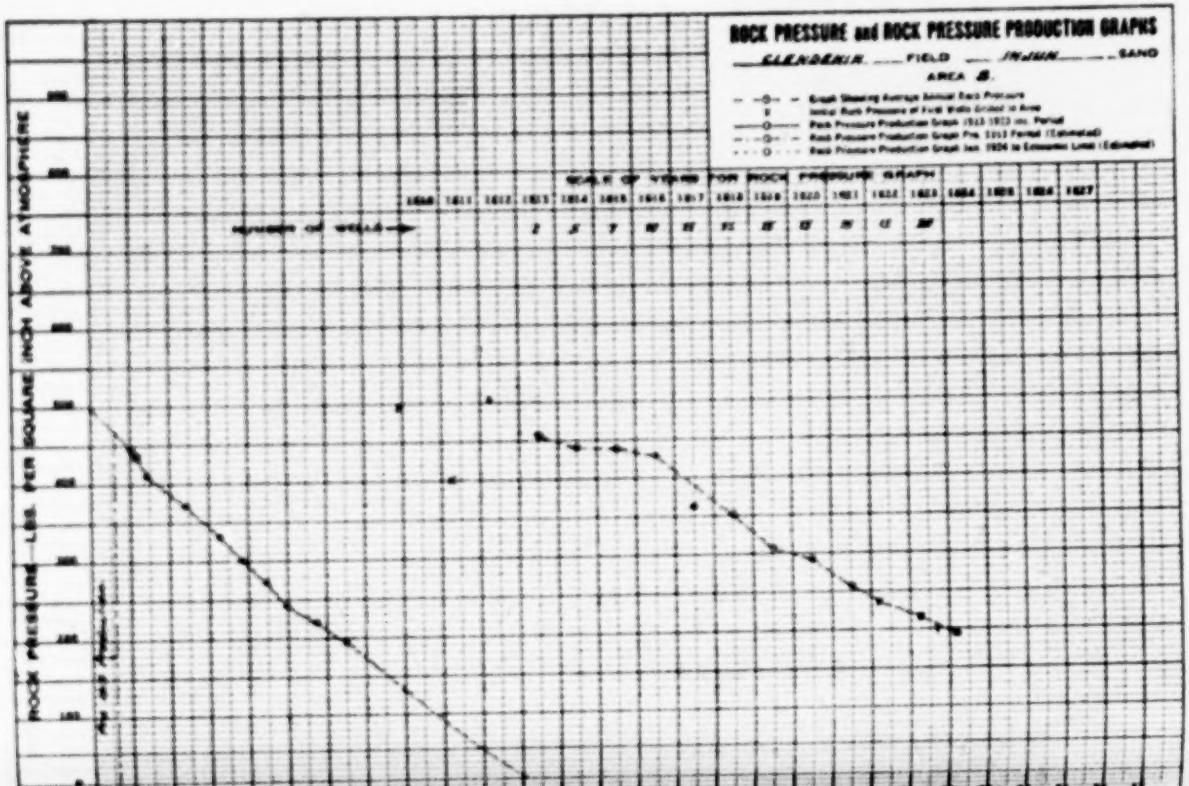
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

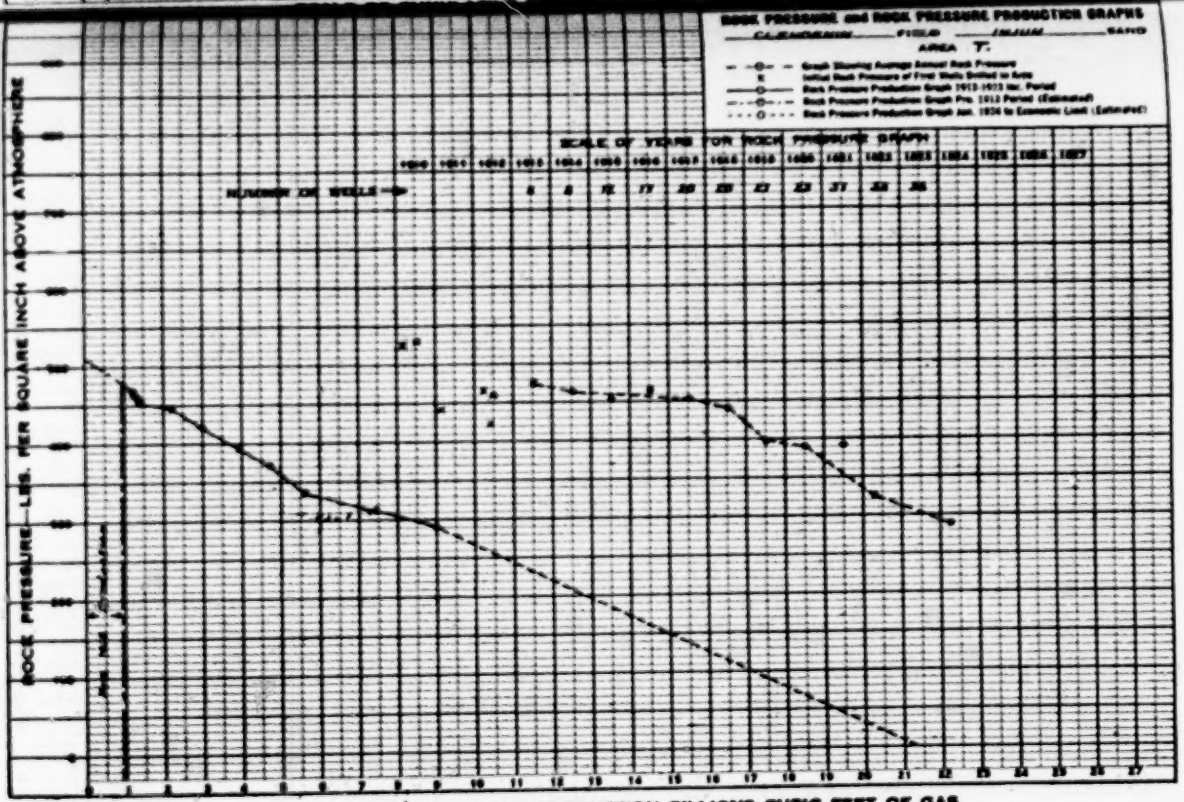

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLEARFORK FIELD ARCHER SAND
AREA O.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

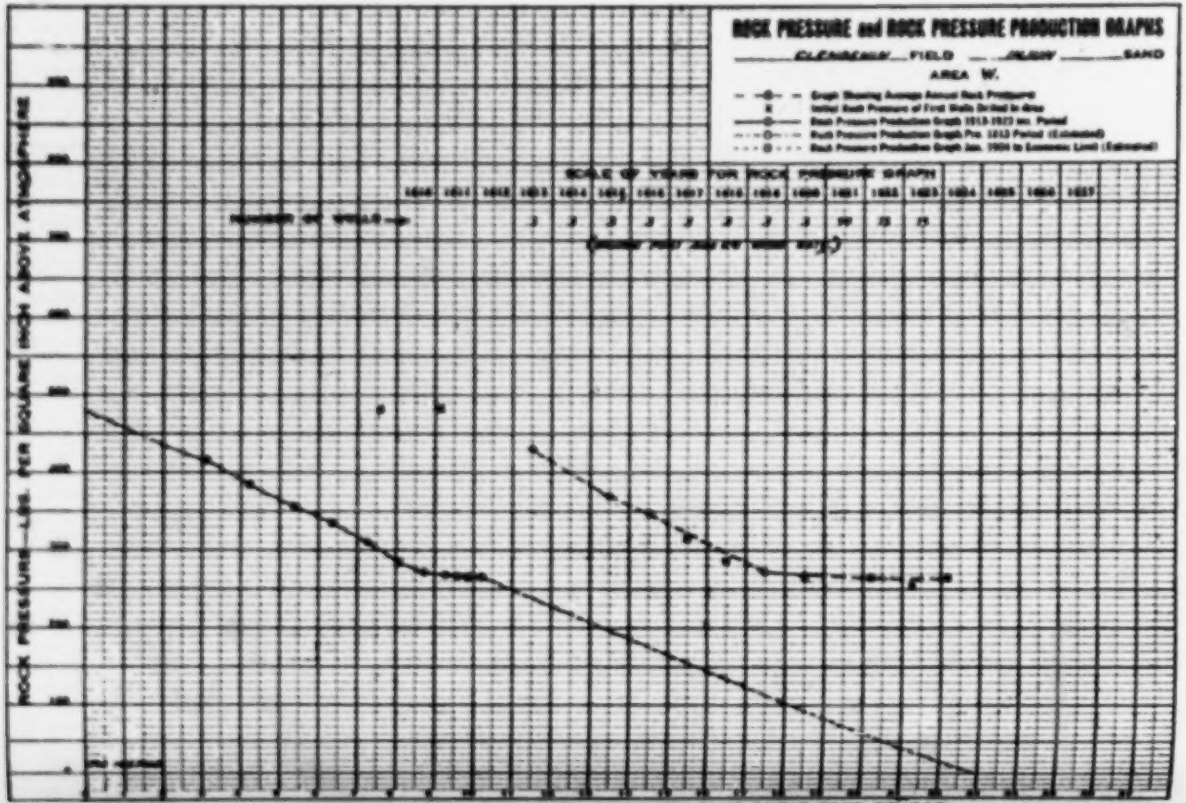
ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
FIELD
SAND
AREA
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
GLENBENIN FIELD JALGIN SAND
AREA B.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS


ROCK PRESSURE - LBS PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
FIELD
SAND
AREA B.
ROCK PRESSURE — LBS. PER SQUARE INCH ABOVE ATMOSPHERE
NUMBER OF YEARS
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827
1 2 3 4 5 6 7 8 9 10 11 12

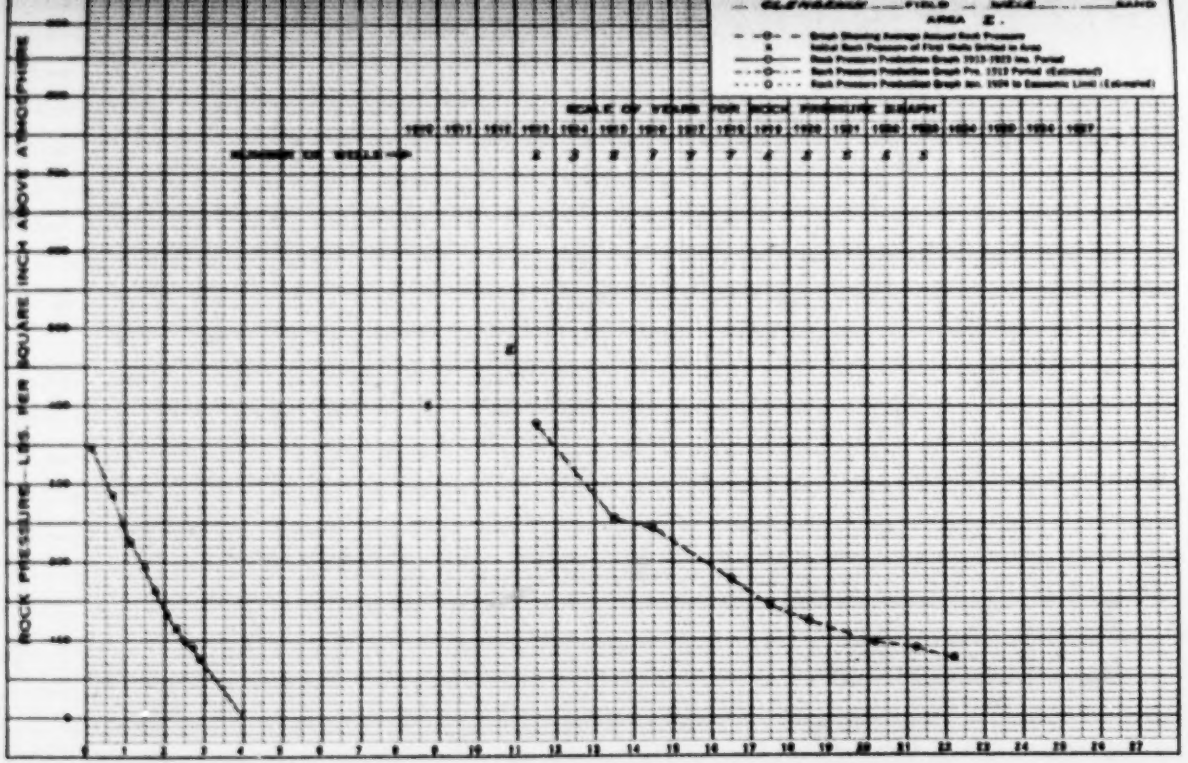

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
AREA T.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

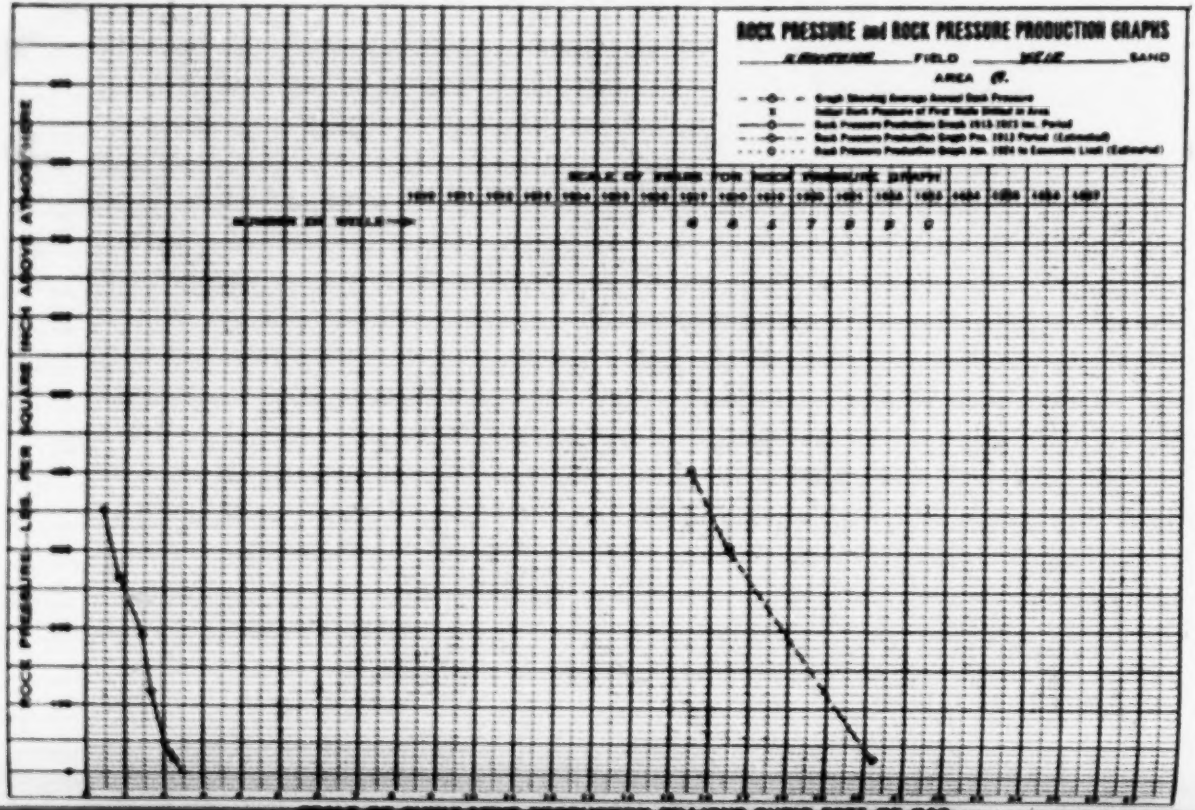

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
CLEARFIELD FIELD CLAY SAND
AREA W.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927
NUMBER OF WELLS
3 3 3 3 3 3 3 3 19 23 23

(30)

ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

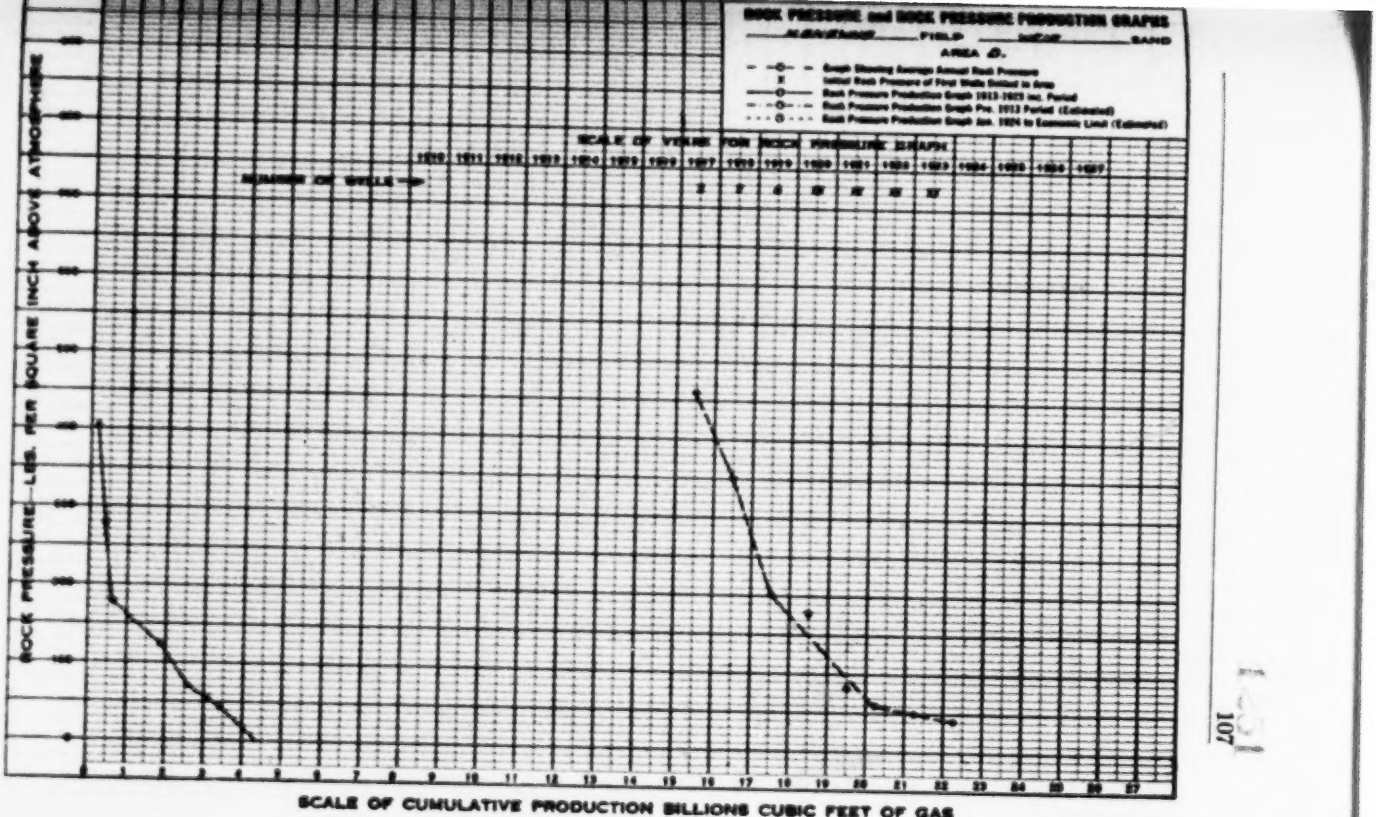
ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
AREA V.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE

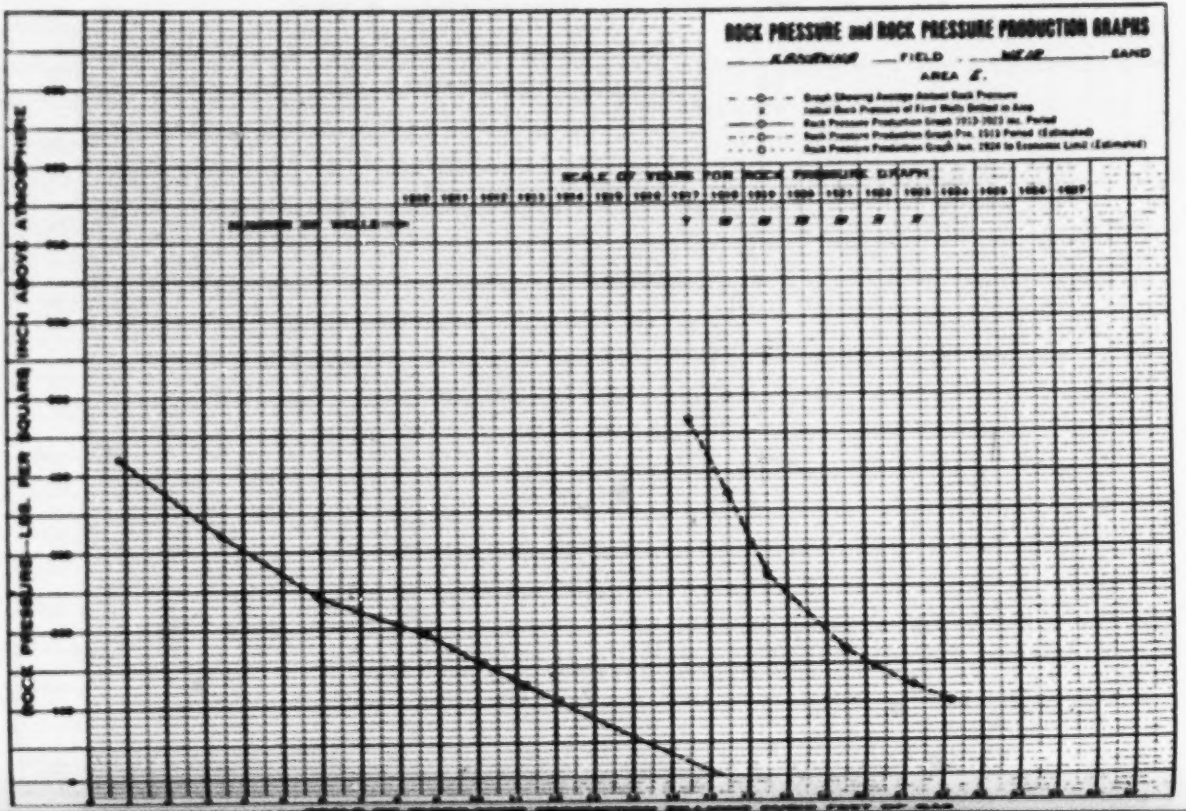

AREA E.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

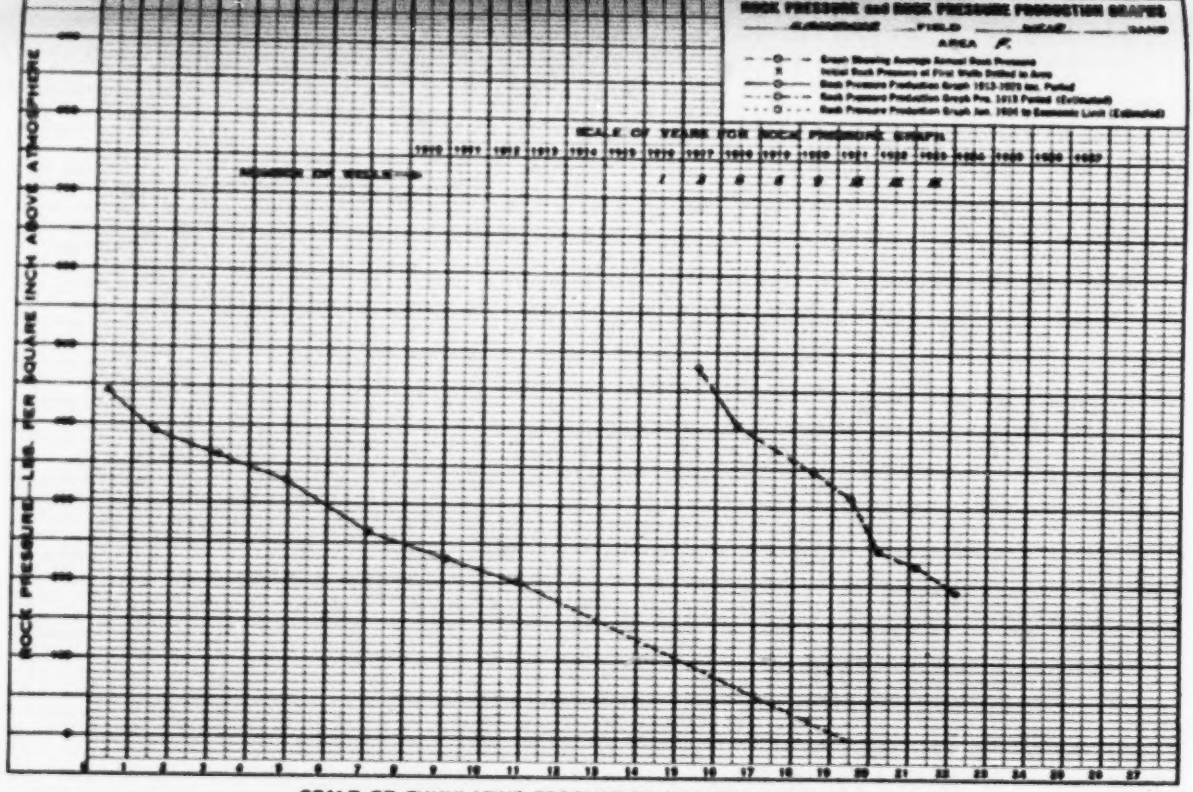

ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
FIELD
SAND
AREA
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE

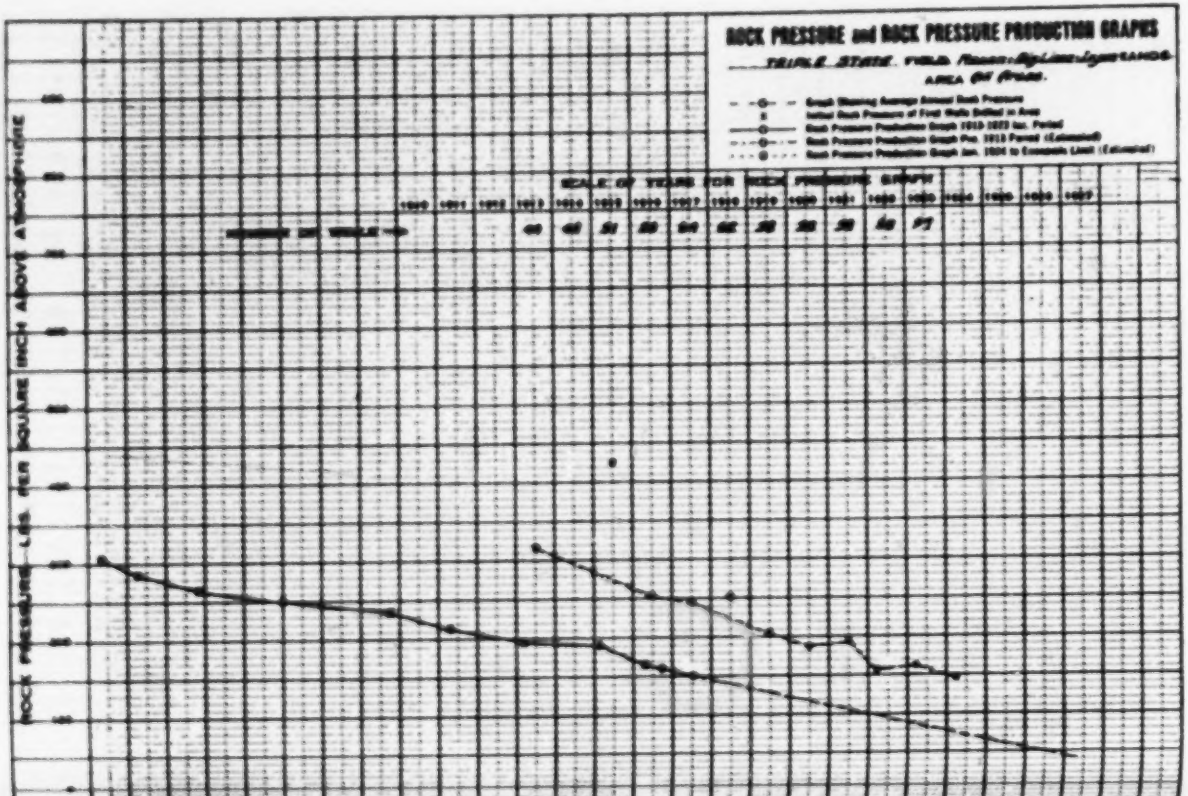
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS

ROCK PRESSURE AND ROCK PRESSURE PRODUCTION GRAPHS
FIELD
SAND
AREA C.
ROCK PRESSURE - LBS. PER SQUARE INCH ABOVE ATMOSPHERE


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
AREA D.
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
FIELD
SAND
AREA E.
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF YEARS FOR ROCK PRESSURE GRAPH
NUMBER OF WELLS


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
AREA F.
SCALE OF YEARS FOR ROCK PRESSURE GRAPHS
NUMBER OF WELLS
ROCK PRESSURE—LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF CUMULATIVE PRODUCTION BILLIONS CUBIC FEET OF GAS


ROCK PRESSURE and ROCK PRESSURE PRODUCTION GRAPHS
TRIPLE STATE
AREA OF FIELD
ROCK PRESSURE - LBS. PER SQUARE INCH ABOVE ATMOSPHERE
SCALE OF YIELDS FOR ROCK PRESSURE GRAPH
1909 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927
60 48 32 20 10 6 3 2 1 1 1 1 1 1 1 1 1 1

SECTION IV

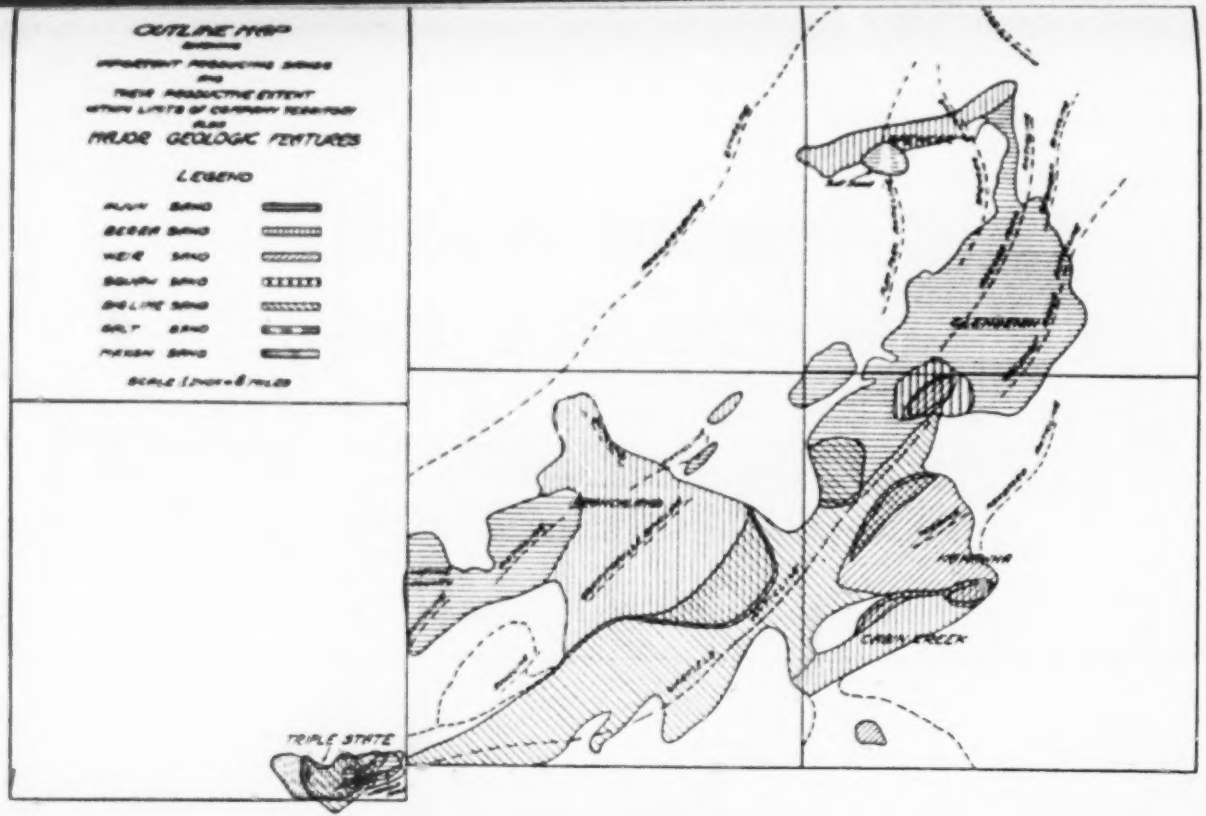
GEOLOGICAL DATA

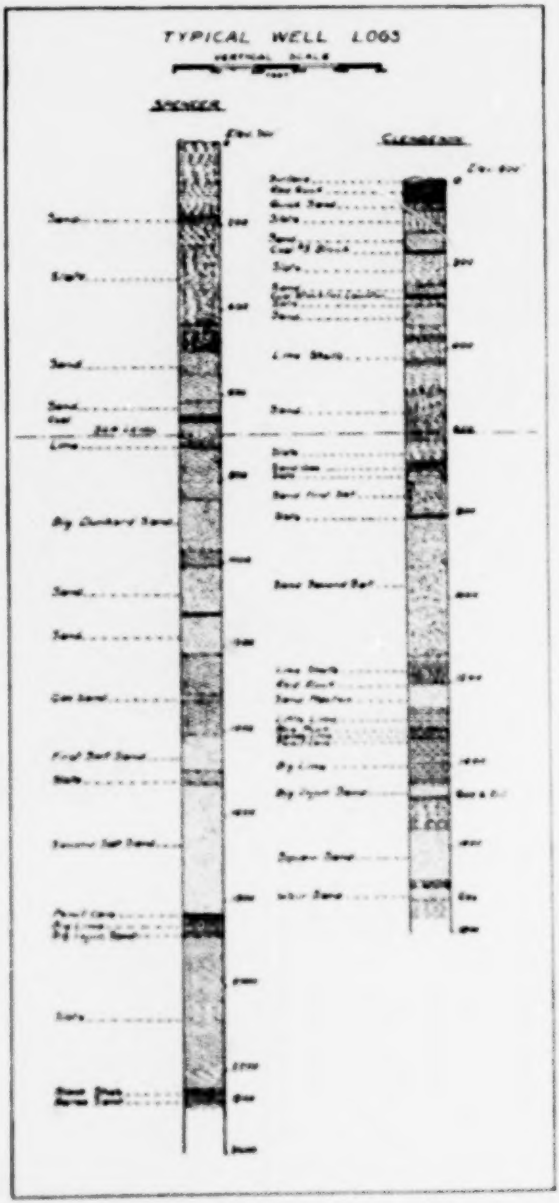
Geological Outline Map

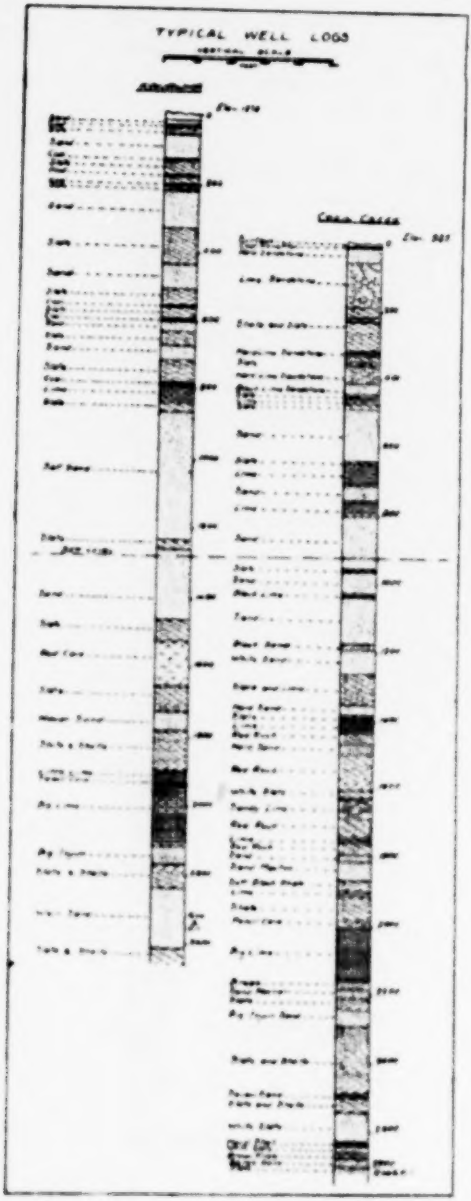
(Showing Pools, Sand Distribution and Structural Areas)

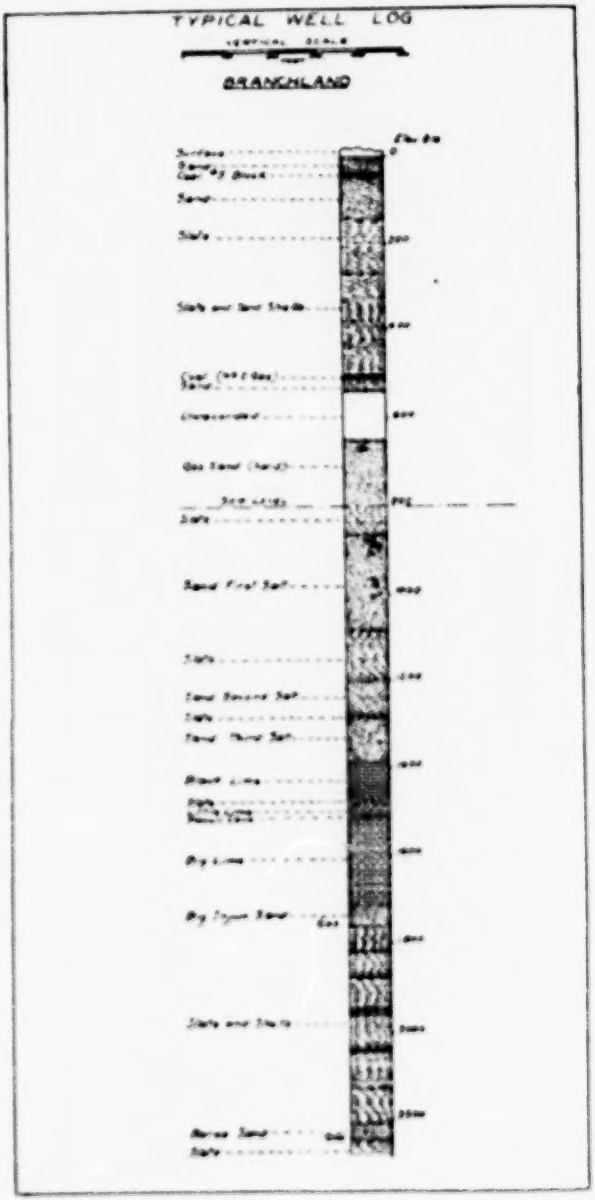
Typical Well Logs.

OUTLINE MAP


OUTLINE MAP
SHOWING
DIFFERENT PRODUCING SANDS
AND
THEIR PRODUCTIVE EXTENT
WITHIN LIMITS OF CHEYENNE TERRITORY
ALSO
MAJOR GEOLOGIC FEATURES
LEGEND
ALLUVIAL SAND
BEEBER SAND
WEIR SAND
SQUAW SAND
DAKOTA SAND
SALT SAND
PAWNEE SAND
SCALE 1 INCH = 6 MILES
CHEYENNE
TRIPLE STATE


TYPICAL WELL LOGS
SPENCER
CARMICHAEL


TYPICAL WELL LOGS


TYPICAL WELL LOG
BRANCHLAND

SECTION V

DETAILED DATA

Description of Areas: Probable, Possible and Unfavorable Gas Territory

Table No. 4. Rock Pressure—Production Well Data
(Arranged by Fields)

DESCRIPTION OF AREAS CLASSED AS PROBABLE, POSSIBLE AND UNFAVORABLE

The geologic map shows a division of territory into (a) proven, (b) probable, (c) possible, and (d) unfavorable areas. Each class of territory is further subdivided into unit areas each of which is numbered for the purpose of reference. For example, on sheet number two of the geologic map, the probable areas are shown in blue and are numbered 204, 205, etc. In like manner the possible areas, shown in yellow, are numbered 214, 215, etc.

The following description of each sub-area gives the basis for the classification made, the method of estimating probable gas reserves and recommendations concerning the particular areas described. The acreage held under lease by the company has been determined for each unit area by scaling the farm maps covering the same area and the result is expressed in square mile units.

PROBABLE GAS TERRITORY

MAP SHEET NO. 2

(All company acreage held by the United Fuel Gas Co.)

AREA 204

Farm Maps 9 and 19 — Acreage held 1.1 square miles

About one-half of the area is considered probable for gas production in the Injun and Berea Sands, the other half probable for gas in the Berea Sand only.

Four foreign wells have been completed in this area and are productive from the Injun Sand. The initial open flow of these wells ranged from 20 M to 700 M.

The area is much less attractive than the proven portion of the Spencer Pool for the reason that edge wells of the proven area "L" had small initial open flows.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
5.9	635	1.1	.25	1.0 billion

The above production factor is the average found for the Berea Sand of the Spencer Pool. The rock pressure is the average initial rock pressure found for the adjoining proven area "L." The factor of 25% is applied to properly compensate for the fact that the area appears much less attractive than the productive area with which it is compared.

AREA 205

Farm Map No. 18 Acreage held 1.2 square miles

All of this area is considered probable for gas production in the Berea Sand.

There are no producing wells within this area and there are three dry holes at its edges, toward the northwest, these show that the Berea Sand has either pinched out or tightened.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
5.9	811	1.2	.25	1.4 billion

The above production factor is the average found for the Berea Sand of the Spencer Pool. The rock pressure is the average initial rock pressure of the proven areas "H," "J," and "K."

A factor of 25% is used partly to compensate for the difference in rock pressure that will be found in this area when it is developed and that used in estimating its reserve, and partly to measure the probability that the area will prove less productive than the area with which it is compared.

AREA 207

Farm Maps No. 18 and No. 19 Acreage held 1.7 square miles

This area is considered probable for oil or gas production from the Injun Sand.

There are two foreign gas wells, five foreign oil wells, one foreign oil and gas well in the Injun Sand and three dry holes.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
9.0	615	1.7	.25	2.4 billion

The above production factor is the average found for the Injun Sand in proven area "M" Spencer Pool. The rock pressure is the average initial rock pressure of proven area "M."

A factor of 25% is used partly to compensate for the difference in rock pressure that will be found in the area when it is developed and that used in estimating its reserve, and partly to measure the possibility that wells drilled will be small oil wells or dry holes.

AREA 208

Farm Maps No. 17, No. 18, No. 27, No. 28

Acreage held 9.5 square miles

This area is classed as probable for gas in the Salt Sand, also to a lesser degree for the Berea Sand.

Some of this area has been tested and gas production from the Salt Sand has been obtained.

There are three gas wells and five oil wells producing from the Salt Sand. The initial open flows of the gas wells ranged from 500 M to 3,500 M. Within the area there is one abandoned gas well, one abandoned oil well and six dry holes.

Estimated Probable Reserve

Production Factor per Acre Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
5.2	610	9.5	.25	7.5 billion

(This includes the reserves of wells No. 993 and 319)

The above production factor of 5.2 million feet is that of the Salt Sand in the Spencer Pool. The rock pressure is the average initial rock pressure of proven area "C-C."

A factor of 25% is used partly to compensate for the difference in rock pressure that will be found in this area when it is developed and that used in estimating its reserve; and partly to measure the probability that a considerable portion of the area will prove unproductive.

The drilling of this area can be carried on from the outer edges of the proven areas.

AREA 209

Farm Map No. 29 — Acreage held 0.2 square miles

This acreage lies between dry hole No. 346 and a small gas well ¾ mile southeast. Wells No. 282 and No. 296 are small wells. Five foreign wells have been drilled within the area. It is probable that a small well would result from drilling.

Drilling is not recommended and no reserves are included for the area.

AREA 210

Farm Maps No. 28, No. 37, and No. 38

Acreage held 1.4 square miles

This acreage is considered probable for gas production in the Injun Sand.

There are fourteen foreign wells producing from the Injun, Lime or Salt Sands. The initial daily open flow of these wells ranged from 200 M to 1,200 M. Four small oil wells are also producing.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Million Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
7.1	505	1.4	.25	2.3 billion

The above production factor of 7.1 million feet is the average found for the Injun Sand in the Clendenin Pool. The rock pressure is the average initial rock pressure of proven areas "C" and "D." A factor of 25% is used to compensate for the difference in rock pressure that will be found in this area when it is developed and that used in estimating its reserve.

AREA 211

Farm Maps No. 37 and No. 38 Acreage held 5.7 square miles

This area is considered probable for gas production from the Injun Sand. The majority of the edge wells of the proven areas "B," "C," and "C-C" have high initial open flows; however the outer edge of the area is well defined by dry holes. Within the area there is one producing oil and gas well and one abandoned oil well.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
7.1	507	5.7	.75	15.4 billion

The above production factor of 7.1 million feet is the average production factor of the Injun Sand in the Clendenin Pool.

The rock pressure is the average initial rock pressure of the proven areas "B," "C," and "C-C."

A factor of 75% is used to compensate for the difference in rock pressure that will be found in this area when it is developed and that used in estimating its reserve.

Drilling can best be carried on by working outward from the proven areas.

AREA 212

Farm Map No. 38 Acreage held 5.5 square miles

This area is considered probable for oil production as there are already eleven small oil wells and but one dry hole.

The company holds the gas rights in this acreage but the oil rights on only 2.2 square miles.

No gas reserve has been included for this area.

AREA 213

Farm Maps No. 29 and No. 39 Acreage held 17.3 square miles

All of this area is considered probable for gas production in the Injun Sand. The edge wells of the adjacent proven areas have on the average been large producers.

A very small portion of this area has been drilled.

There are five foreign gas wells and one company gas well producing from the Injun Sand.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
7.1	510	17.3	.65	40.7 billion

(This includes reserve of well No. 402)

The above production factor of 7.1 million feet is the average production factor of the Injun Sand in the Clendenin Pool. The rock pressure is the average initial rock pressure of the adjoining proven areas.

A factor of 65% is used to compensate for the difference in rock pressure that will be found in this area when it is developed and that used in estimating its reserve.

Drilling of this area can be best carried on by working outward from the edges of the proven areas.

MAP SHEET NO. 3

AREA 304

Farm Map No. 47 — Acreage held 1.5 square miles

This area is classed as probable for gas in the Injun Sand.

The southwestern portion of this area has been drilled and is productive of gas from the Injun Sand. Structurally the area is near the crest of a plunging anticline and is practically surrounded by a dry area.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
7.1	500	1.5	.75	4.0 billion

(Includes reserves of wells No. 345, No. 286 and No. 646)

The above production factor of 7.1 million feet is the average found for the Injun Sand in the Clendenin Pool. The rock pressure used, 500 lbs., is the initial rock pressure of the area. A factor of 75% is used to compensate for the difference in rock pressure that will be found in this area when it is developed and that used in estimating its reserve.

AREA 307

Farm Maps No. 38, No. 48 and No. 49

Acreage held 22 square miles

All of this area is considered probable for gas in the Injun Sand and in some parts in the Weir Sand.

For the most part, this acreage is surrounded by proven areas. The area to the southeast, however, is considered dry although successful results have attended drilling in the southeast part of area No. 307.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
7.1	485	22.0	.75	56.8 billion

(This includes reserves of wells No. 461, No. 404, No. 662, No. 900, No. 494, No. 609, No. 644, No. 1010, No. 1276, No. 1293, No. 1332, No. 1337 and No. 1350.)

The above production factor of 7.1 million feet is the average found for the Injun Sand in the Clendenin Pool. The rock pressure used, 485 lbs. is the average initial rock pressure of the area.

A factor of 75% is used to compensate for the difference in rock pressure that will be found in this area when it is developed and that used in estimating its reserve.

AREA 316

Farm Maps No. 47 and No. 48 Acreage held 12.7 square miles

This area, situated on the flank of the Warfield Anticline, is considered probable for gas production in the Injun, Squaw and Weir Sands but the Injun is by far the most important. It is on the edge of an oil pool and has one proven area of gas near its center and another at one end.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
7.1	462	12.7	.75	31.2 billion

(This includes reserves of wells No. 777, No. 778, No. 661 and No. 752)

The above production factor of 7.1 million feet is the production factor found for the Injun Sand in the Clendenin Field.

The rock pressure used, 462 lbs., is the average initial rock pressure of wells drilled in the area and of neighboring wells.

Since wells drilled in the area have proven smaller than those in the adjoining proven area, a factor of 75% has been used.

AREA 322

Farm Maps No. 47, No. 48 and No. 57

Acreage held 8.1 square miles

This area, situated near the apex of the Warfield Anticline, is considered probable for gas production from the Big Lime, Keener and Injun Sands. The Company has drilled four wells within the area and these as well as foreign wells are productive from these three sands.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
7.1	340	8.1	.75	14.7 billion

(This includes the reserves of wells No. 554, No. 1099, No. 1117 and No. 1314)

As there is no company proven area near, it is found necessary to use the average production factor for the Injun Sand in the Clendenin Pool. The rock pressure used, 340 lbs., is the average initial rock pressure of the area.

A factor of 75% has been used partly to compensate for the depletion of this area by foreign wells.

AREA 325

Farm Maps No. 57 and No. 58

Acreage held by Cabin Creek Gas Co.—2.4 sq. mi.
Acreage held by United Fuel Gas Co.—22.2 sq. mi.

This area, located on the east flank of the Warfield Anticline is considered probable for gas production from the Weir Sand, which is thick in this area.

This area completely surrounds the large proven area No. 326, and only a small portion of area No. 325 is bounded by dry territory.

A few wells have been drilled within the area and are productive.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet		Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
U. F. G.	19.0	400	22.2	.50	84.4 billion
Cabin Creek	19.0	400	2.4	.25	4.6 billion

(This includes reserves of wells No. 1137, 1090, 1091, 907, 1116, 1018, 974, 1277, 1298 and CC 46)

The above production factor is the factor obtained for the Weir Sand in the proven areas of this locality. The rock pressure used, 400 lbs., is the approximate average initial rock pressure of this area.

Since the Weir Sand becomes thinner at the outer boundaries, and the fact that the area surrounds closely drilled acreage, a 50% factor has been used for the United Fuel Gas Co. acreage. Due to the fact that one dry hole has been drilled close to the Cabin Creek Gas Company acreage a factor of 25% has been used.

In certain sections of this area drilling should be undertaken promptly, as the foreign wells now producing will rapidly deplete the reserve of those portions.

AREA 330

Farm Maps No. 57 and No. 67 Acreage held 5.4 square miles

This area, situated on the crest of the Warfield Anticline, is fairly well tested and is considered probable for gas production in the Big Lime. The life of such wells will be short however. No production of consequence from other sands is likely.

Several foreign wells are productive within the area. There is a dry area to the northeast and northwest.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
3.0	330	5.4	.75	4.0 billion

The above production factor of 3.0 is based on a comparison between the Injun production with that of the Big Lime. The average initial rock pressure is about 330 lbs.

A factor of 75% has been used to compensate for the difference in rock pressure that will be found when it is developed and that used in estimating its reserve.

AREA 332

Farm Maps No. 58 and No. 68 Acreage held 4.1 square miles

This area is considered probable for gas production in the Berea and Weir Sands, the Berea being the more important.

No wells have been drilled within this area.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
4.0	558	4.1	1.0	9.2 billion

The above production factor of 4.0 is the production factor as found in the Berea Sand of Sheet No. 4. The rock pressure used, 558 lbs., is the initial rock pressure as found in the Berea Pools on Sheet No. 4.

This estimate seems rather low, and no reduction is made because some production may be obtained from the Weir Sand. One or two test wells should be drilled.

AREA 333

Farm Maps No. 58 and No. 68 Acreage held 1.8 square miles

This area is considered probable for gas production in the Berea Sand, as foreign wells obtaining good production have been drilled throughout the area.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
4.0	540	1.8	1.0	3.9 billion

(This includes reserves of well No. 812)

The above production factor is that of the Berea Sand. The rock pressure used, 540 lbs. is the average initial rock pressure for this area. No discount factor is applied.

AREA 339

Farm Maps No. 58 and No. 68 Acreage held 5.1 square miles

This area, lying on the flanks and crest of the Hansford Anticline, a minor fold of the Warfield Anticline, is considered probable for gas production from the Weir Sand. Some gas may be produced from the Berea Sand.

The area is bounded by an oil pool on one side.

Two company wells have been drilled within the area, the initial production averaging about 400 M cubic feet.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
19.0	500	5.1	.50	24.2 billion

(This includes the reserves of wells No. 1092 and No. 295)

The above production factor of 19.0 million feet is that found for the Weir Sand. The rock pressure used, 500 lbs., is the average initial rock pressure of the area.

Since the initial open flow of the two drilled wells is smaller than those of the area from which the factor is derived, and the fact that an oil pool is near, a factor of 50% has been used.

MAP SHEET NO. 4

AREA 402

Farm Map No. 44 — Acreage held by United Fuel Gas Co. 1 square mile

This area is classed as probable for gas in the Berea Sand.

The area lies near the crest of a small plunging anticline and is near producing wells.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
4.0	546	1.0	1.0	2.2 billion

The production factor used is that for the Berea Sand.

AREA 403

Farm Map No. 45 — Acreage held 1 square mile

This area is classed as probable for gas in the Berea Sand.

It is located on the flanks of a plunging anticline, is near producing wells and is practically proven.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
4.0	558	1.0	.50	1.1 billion

(Includes the reserves of well No. 593)

The above production factor is determined by the nearest proven Berea Pool. The initial rock pressure is also determined by this pool. The 50% factor is used because foreign wells are depleting the area to some extent.

AREA 404

Farm Map No. 55

This area is classed as probable for gas in the Salt, Injun and Berea Sands.

The company does not hold any acreage in this area.

The area lies on the top and flank of a small dome and has been producing gas for the past ten years. Most of the production comes from the Salt and Injun Sands although a little production has come from the Berea. The area has been practically drilled up except for some offsets to producing wells.

AREA 405

Farm Maps Nos. 45, 54 and 55

Acreage held by United Fuel Gas Co.—1.1 square miles
This area is classed as probable for gas in the Berea Sand.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
4.0	570	1.1	1.0	2.5 billion

The production factor is that for adjacent proven areas of the Berea Sand and the rock pressure is the average initial rock pressure of the surrounding area.

AREA 406

Farm Map No. 55

This area is classed as probable for oil in the Berea Sand.

The company does not hold any acreage in this area.

The area lies in the bottom and on the flank of a basin, north and east of the Griffithsville oil pool. All of the wells drilled in this neighborhood produce from one to eight barrels of oil from the Berea and several small wells could be expected in this area.

AREA 408

Farm Maps Nos. 55, 56, 65, 66

Acreage held by United Fuel Gas Co.—51.6 square miles

This area is classed as probable for gas in the Big Lime and Berea Sands.

The area lies on the flanks of the Warfield Anticline and has been well tested. Gas has been found in both the Big Lime and Berea, the latter being by far the more important. The south and east portions of the area have proven more productive in the Big Lime, the northerly and westerly portions productive from the Berea. Most of the company acreage lies in the Berea section of the area.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
4.0	509	51.6	.75	78.8 billion,

(This includes the reserves of wells Nos. 213, 230, 500, 742, 811 846, 556 and 1089)

The above production factor is determined by proven areas of the Berea of this section and the rock pressure is the initial rock pressure of the Berea Sand. The factor of 75% is used because the initial open flow of wells drilled in the area is smaller than the initial open flow of wells of the neighboring Berea pools from which the production factor is determined.

AREA 411

Farm Map No. 53 Acreage held by United Fuel Gas Co.

0.1 square miles

Two wells have been drilled in the Big Lime and Berea sands on this acreage. Inasmuch as the wells are not as yet on line, the reserves are classed as probable and they will be useful only when connected to a line.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
4.0	550	0.1	1.0	0.2 billion

(This includes reserves for wells No. 473 and No. 580)

The above production factor is that found for the Berea Sand in the Columbia proven area.

AREA 413

Farm Maps No. 66, 75 Acreage held by United Fuel Gas Co. 1.5 square miles

This area is classed as probable for gas in the Big Lime.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
3.0	330	1.5	1.0	1.5 billion

(This includes reserves of wells No. 633 and No. 838)

The above production factor is that found for the Big Lime and the rock pressure is that of wells completed in the area.

AREA 415

Farm Maps No. 73 and No. 83

Acreage held by United Fuel Gas Co.—3.3 square miles

This area is classed as probable for gas in the Big Lime.

This area is apparently a continuation of the Triple State Field. It lies near the crest of the Warfield Anticline which in this locality has proven more productive than elsewhere in the territory studied.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
3.9	330	3.3	1.0	4.2 billion

In this estimate, the Triple State factor of 3.9 has been used and a rock pressure of 330 pounds, which is the rock pressure of the Triple State Field as of 1913.

AREA 419

Farm Map No. 74 and No. 75

Acreage held by United Fuel Gas Co.—2 square miles

This territory is proven by five company wells and several foreign wells for gas in the Big Lime.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
3.9	223	2.0	1.0	1.7 billion

(This includes reserves of wells No. 326, 367, 643, 707 and 734)

The rock pressure used is the present average rock pressure of the company wells.

MAP SHEET NO. 5

AREAS 501, 502 AND 510

Farm Maps No. 82 and 83

Acreage held by United Fuel Gas Co.—12.2 square miles

This area is classed as probable for gas production in the Salt, Maxon, Big Lime and Injun Sands.

The area is located on the axis of the Warfield Anticline between proven areas of the Triple State Field. The information on drilled wells in the proven areas of the field is meager but it is thought that the Big Lime is broken and crevassed due to the intense folding as dry holes have been drilled near good producing wells.

In the proven and vicinity of the proven areas (maps 82 and 83) there have been 115 gas wells, 33 dry holes drilled, and of the 148 tests made, 22% have proven dry.

Estimated Probable Reserve

Production Factor per lb. Rock Pressure Millions Cubic Feet	Rock Pressure Used	Company Area Sq. Miles	Factor	Probable Reserve
3.9	330	12.2	1.0	15.7 billion

(This includes reserves of well No. 80)

The production of the proven areas has only been calculated from 1913 due to lack of prior information, and our estimate of reserves of probable areas has been based on the past production from 1913—1923 plus the estimated future production of the proven areas.

The rock pressure used is the average rock pressure of the proven areas at the beginning of 1913. The production factor of the field is 3.9 million cubic feet per pound drop per square mile.

POSSIBLE GAS TERRITORY

MAP SHEET NO. 2

AREA 214

Farm Maps No. 40 and No. 50 Acreage held 2.2 square miles

This area is classed as possible for gas production either in the Big Lime or Injun Sands. The area is structurally well located.

One well has been drilled in the area having an initial open flow from the Big Lime of 1,400 M cubic feet, and an initial rock pressure of 540 lbs.

One or two test wells will show whether further development should be carried on.

AREA 215

Farm Maps No. 29 and No. 30 Acreage held—none

This area is well located for gas. The Chestnut Ridge Anticline passes through its center. There have been five gas wells and one oil well drilled within this area but we have very little information regarding them. They are reported productive from the Injun Sand. The sand is reported as having a thickness of 28′ in one well and 66′ in another. The initial open flow of one well is given as 6,000 M.

This area is worthy of further study.

AREA 216

Map Sheets No. 1 and No. 2

Farm Maps No. 17 and No. 27 Acreage held 6.0 square miles

(Sheet 1—Maps No. 16 and No. 26)

Of the acreage held by the company in this area, about two-thirds is classed as possible for gas in the Berea Sand. The remaining acreage held, lying farther to the west, does not look good but has been classed as possible because of two wells that have obtained production (see Farm Map No. 16).

The structure as indicated by surface indications is very flat. Test wells which have been drilled indicate that the Berea Sand is thinning out in places.

Drilling should proceed from the proven areas "A" and "B," the edge wells of which are large producers.

The acreage held in the west portion of the area (about two square miles) is hardly worthy of a test.

MAP SHEETS NO. 1, NO. 2, NO. 3, NO. 4

AREA 302

Farm Maps No. 37, No. 36, No. 47, No. 46

Acreage held 14 square miles

This area is classed as possible for gas production in the Big Lime and Injun Sands.

There are at present four foreign gas wells producing from the Big Lime with initial open flows ranging from 800 M to 9,800 M; two company gas wells producing from the Big Lime; three small oil wells producing from the Injun; two oil and gas wells and four dry holes.

The position of this area in reference to the Clendenin Pool, and the structural relations make it worthy of at least four or five test wells.

MAP SHEET NO. 3

AREA 314

Farm Map No. 49 Acreage held 2½ square miles

The acreage held by the company borders the probable area No. 307. The proven gas pool situated about a mile to the west has not been defined in its eastern extent and it is possible that it will extend to the acreage here discussed.

This acreage should be held pending the testing of the area No. 307. Two test wells, however, should be drilled to prove or condemn the company acreage held in this area.

AREA 317

Farm Maps No. 48, No. 57, No. 58

Acreage held 24.9 square miles

This area is classed as possible for gas production in the Big Lime, Injun, Weir, and Berea Sands.

The area lies on the flanks and crest of the Warfield Anticline. Judging by experience in the developed portions of the field, the Big Lime is likely to be productive on the crest of the

anticline, and production is likely to be obtained from one of the deeper sands on the flanks.

One well has been drilled near the crest of the anticline and obtained some gas from the Injun Sand. This sand was reported as "badly broken" and other sands thin or missing.

Several test wells will be required to test the area.

AREA 321

Farm Map No. 47 Acreage held 2.7 square miles

This area is classed as possible for small production from the Injun and Squaw Sands. It is located on favorable structure but the sand conditions of surrounding territory are not good. Nearby wells drilled to the Berea horizon indicate that this sand is thin or missing.

Two wells, one in map square No. 64-59 and one in map square No. 66-57 will be sufficient to test the area.

AREA 323

Farm Map No. 57 Acreage held 5.7 square miles

This area is classed as possible for gas in the Big Lime and Injun Sands.

Production from adjoining areas is from the Big Lime and Injun. The area lies on the flank of the Warfield Anticline. One foreign gas well with initial open flow of 400 M cubic feet has been drilled in the northeast portion of the area.

This area should be tested by progressive drilling from the northeast. At least two wells should be drilled.

AREA 328

Farm Maps No. 58 and No. 59 Acreage held 10 square miles

This area is classed as possible although the indications make the territory quite doubtful. The structure is flat and adjoining areas are not very good. The Weir Sand which is the producing horizon to the west is thin in wells drilled near this area, and the Berea Sand is thin or missing. There is, however, a chance for gas in the Big Lime and possibly the Injun.

A dry hole has been drilled in map square 78-53 with show of gas in the Weir, however this does not wholly condemn the area. Other tests may be made in map squares 82-49 and 80-53.

AREA 329

Farm Maps No. 58 and No. 68 Acreage held 6½ square miles

This area is classed as possible. The acreage held in this area lies near the crest of the Hansford Anticline or on its flanks. One dry hole has been drilled in map square No. 76-49, however there is a good chance for gas in either the Weir, Berea, or Big Lime and a lesser chance in the Injun or Keener.

Production from the area adjoining on the west is from the Weir, while the area to the east is productive from the Berea. There is also some Keener or Keener and Injun production near the area.

This area should be tested by progressive drilling from the adjoining productive areas.

AREA 331

Farm Map No. 57 Acreage held 1.8 square miles

This area is classed as possible for gas production in the Big Lime and Weir Sands.

Two foreign wells with production from the Big Lime and one dry hole have been drilled in this area.

The area lies on the flank of the Warfield Anticline. Sand conditions are not very favorable. The nearest wells producing from the Weir are small and the Berea Sand is thin in nearby wells.

One or two wells would sufficiently test the company acreage.

AREA 340

Farm Maps No. 67, No. 77, No. 87

Acreage held 46.9 square miles.

This area is practically unexplored and it has been impossible to determine the underground structure. Surface structure shows no marked features, merely a monocline dipping to the northwest.

The portion of the area situated on farm map No. 77 is quite promising, as there is a group of foreign wells having good pro-

duction from the Weir Sand in probable area No. 344, surrounded by United Fuel Gas Company holdings. The wells referred to are some distance from the United Fuel acreage, the intermediate territory not having been tested.

Inasmuch as the foreign wells are a considerable distance from company holdings, it appears that the best policy would be to hold this acreage without testing until such a time as there is reason for a change in this policy. It is believed that the present foreign wells will have very little effect on company reserves.

AREA 346

Farm Maps No. 78 and No. 88. Acreage held 80.1 square miles

This territory is purely wildcat as very few tests have been made and those made have been unproductive. Surface structure shows a monocline dipping to the northwest with no interruption of consequence.

It would appear logical to make a careful study of this area with the idea of drilling a few test wells to determine the desirability of holding or abandoning acreage. From information at present available, the area does not look attractive.

MAP SHEET NO. 4

AREA 410

Farm Map No. 74 Acreage held 0.6 square miles

This area is classed as possible for gas in the Big Lime.

The acreage is scattered and it is not worth testing under present conditions.

AREA 414

Farm Maps No. 66-65 Acreage held 2.5 square miles

This area is classed as possible for gas production in the Big Lime and Berea Sands because there is production from these sands in adjoining areas. The Big Lime will probably prove the better of the two.

This area, situated along the flanks of the Warfield Anticline, is almost completely surrounded by probable areas.

MAP SHEET NO. 5

AREA 503

Farm Maps Nos. 82, 83, 81, 91, 92

Acreage held 13.9 square miles

This area is classed as possible for gas production.

The coal structure has been worked up for only the eastern portion of this area and little is known of this acreage in Martin County, Ky. A careful study should be made of this area to determine the location of a few test wells.

In the portion of the area in Mingo County, two test holes should be drilled, one in square No. 26-23, the other in square No. 28-25.

AREA 504

Farm Maps Nos. 82, 83, 81, 72, 61, 62, 52

Acreage held 29.6 square miles

This area is classed as possible for gas production from the Maxon Sand and the Big Lime.

The leaseholds in the northern part of this area lie on the flank of the Parkersburg Syncline. A few miles to the west is a large oil pool in the Berea Sand, the initial production however being but three or four barrels. To the east of the acreage is a band of dry holes. Practically all of the acreage is held in fee and as the cost of holding is negligible, it can be held until further foreign testing is carried on.

A number of tests have been made which came in as very small wells or dry holes. A few additional tests are recommended, at least three on leaseholds held on map No. 82 and one in square No. 16-33.

UNFAVORABLE TERRITORY

MAP SHEET NO. 2

AREA 201

Farm Maps Nos. 7, 8, 9, 17, 18

(Area extends also on map sheet No. 1)

This area is classed as unfavorable.

Most of the area and most of the company acreage within the area is located in the Parkersburg Syncline or along its southeastern flank. This syncline is a broad structure, the dip of the beds is slight, irregularities are uncommon and it does not appear a favorable area for the accumulation of either oil or gas. Furthermore a large number of tests have been made and salt water has been found in the Injun and Berea Sands in the trough of the syncline and extending over a considerable area. In a few tests a show of oil has been found in the Berea and a show of gas in the Injun and Berea.

The South Penn Oil Company has made a location in map square No. 62-103. This well should indicate what policy should be followed by the United Fuel Gas Company with leases held in map square No. 69-103.

One test should be made on the acreage in map squares No. 64, 97 and 99. If this test is dry and the test being made by the South Penn Oil Company is likewise dry, all leaseholds on farm map No. 7 can be abandoned without further testing.

The company holds 5.7 square miles located on the area of farm map No. 17 and 12.1 square miles on the area of farm map No. 18. A test made in the area of map square 95-64-66 should indicate the policy regarding this acreage.

Considered as a whole and with the exception of the two test locations suggested, it is believed that any other acreage in this area is of little prospective value.

AREA 217

Farm Maps No. 19, 29, 39, 40

This area is classed as unfavorable. Portions of the area appear to be favorably located structurally but the area has been given a rather thorough test and there appears little probability that gas will be discovered. Test wells in map square No. 90-71 and No. 86-77 would indicate the policy to be followed in regard to acreage held within the area of farm maps No. 29, No. 39 and No. 40. Other acreage held in area of farm maps No. 19 and No. 29 is in small scattered leases and does not seem worthy of further testing.

AREA 218

Farm Maps Nos. 18, 28, 27, 37, 38

This area is classed as unfavorable and recommendation is made that the acreage be abandoned without further testing. Numerous tests have been made throughout the area and no gas or oil of importance has been found.

MAP SHEET NO. 3

AREA 305

Farm Maps Nos. 47, 48, 57

(Connects with Area 401 on Sheet No. 4)

This area is classed as unfavorable. Test drilling has been done at various places in this area through the Berea Sand without success.

Although the area looks very unfavorable, it might be advisable to make a few tests before abandoning the acreage. The more likely locations would be in map squares No. 60-57, No. 60-55, No. 60-53, No. 60-51, No. 60-49. Small oil wells might be found in No. 68-65.

AREA 318

Farm Maps No. 48, 58, 49

This area is classed as unfavorable.

Some twenty-eight wells, five of which are company wells, have been drilled throughout the area and the only encouragement has been small shows. South of area No. 307, the area has not been well tested.

Structurally the area is a broad syncline. Its position on the trend of the Cabin Creek oil pools, the small oil pools in the Kanawha Field and the Injun oil pool located in map squares Ns. 82-84 east, 63-65 north, is the most interesting feature of the area. It would appear possible that oil may be found in the intervening areas.

Information taken from well records indicate that the sands are fairly thick. There is no indication of particularly favorable structure. It may be advisable to make tests in map squares No. 80-61; No. 82-61; No. 82-59; and No. 80-59 before abandoning the acreage.

AREA 324

Farm Map No. 47

This area is classed as unfavorable. It is located on the crest of the Warfield Anticline. A great many dry holes have been drilled in the locality and it appears doubtful that any worth while production can be secured. Short lived wells in the Big Lime are about as good as can be expected.

AREA 327

Farm Map No. 58

This area is classed as unfavorable.

Six dry holes have been drilled within the area. The Weir Sand which is the best producer in neighboring territory is thin in this area and the Berea Sand is thin or missing. No production is found in the Injun Sand.

The acreage should be abandoned without further test.

AREA 337

Farm Map No. 67

This area is classed as unfavorable.

The best chance of getting gas is in the Big Lime. The acreage held is small and is considered of little importance.

AREA 341

Farm Maps No. 67, 78

This area is classed as unfavorable.

This acreage has little to recommend it but should be held pending decision of policy regarding the Raleigh County acreage.

AREA 343

See Area 417

MAP SHEET NO. 4

AREA 401

Farm Maps Nos. 43, 44, 45, 46, 53, 56, 63

This area is classed as unfavorable as many dry holes have been drilled throughout. Structurally, there is nothing of importance yet found.

AREA 416

Farm Maps Nos. 63, 64, 65, 73, 74

This area is classed as unfavorable. Some 21 wells have been drilled within its area and all have been dry holes.

Since this acreage lies in what would seem "gas territory" and several square miles have not been tested, it is recommended that this area be tested in four or five places before surrendering.

AREAS 417 AND 343

Farm Maps Nos. 66, 74, 75, 76, 77

This area is classed as unfavorable. Most wells which have been drilled within the area have been dry holes, however, several producing wells of considerable importance have been drilled in the southwest portion. Company acreage held should be tested before surrendering.

MAP SHEETS NO. 4 AND NO. 5

AREA 418

Farm Maps No. 53, 62, 63

This area is classed as unfavorable. The wells drilled near this area have been proven dry, or only shows have been found. There are no structural features of consequence.

The acreage is considered insufficient to justify a test.

MAP SHEET NO. 5

AREAS 505, 506, 507, 508, 509

Farm Maps Nos. 72, 82, 83

This area is classed as unfavorable. Past drilling has already proven these areas to be dry and they can be abandoned without further tests.

TABLE NO. 4

Rock Pressure Production Data by Wells

(Arranged by Fields and Pools)

Note: Occasionally the rock pressure recorded for a well in a particular year is known from subsequent data to be erroneous. In these cases the erroneous pressure is shown within a bracket and has not been used. In some cases the rock pressure is recorded as "estimated." In these cases the estimated rock pressure is determined from known rock pressures of years immediately preceding and following that in which the pressure is estimated.

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—A

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
717	965	10-27-15					970	940	830	600		260	250
1043	850	12-17-18							870	520		220	190
1168	470	10-30-20								470		265	190
Rock Pressure Totals							970	940	1700	1590		745	630
Number of Readings							1	1	2	3		3	3
Average Rock Pressure							970	940	850	530		248	210

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—A

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
717	1 674	10-27-15					58	104	118	296	137	25	46
1043	3 536	12-17-18							122	385	162	142	90
1168	2 133	10-30-20								42	201	97	109
Annual Production							58	104	240	723	500	264	245
Cumulative Production							58	162	402	1125	1625	1889	2134

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—B

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	
911	890	6-23-17					890	710	550	350		180	160	
933	910	8-12-17					910	840	740	420		225	190	
948	725	11-16-17					725	750	420	320		*230	190	
979	910	10-15-17					910	870	780	410		*230	190	
991	860	10-25-17					860	790	690	320	250	235	180	
1041	630	1-17-19							630	420	365	270	215	
1164	330	2-26-21									330	225	180	
1165	320	2-17-21									320	210		
1166		1-24-21									363	*280	180	
1167	400	12-19-20								400	338	210	185	
1200	380	2-28-21									370	240	210	
1202	300	5-27-21									320	175	160	
1209	400	5-19-21									408	*280	210	
1286													195	
1321														
Rock Pressure Totals							4295	3960	3810	2640	3064	2990	2445	2
Number of Readings							5	5	6	7	9	13	13	
Average Rock Pressure							859	792	635	377	340	230	188	

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—B

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
911	4 817	6-23-17					38	147	307	182	110	55	55
933	2 826	8-12-17					35	52	174	234	104	55	44
948	5 253	11-16-17					35	343	357	285	103	54	42
979	4 030	10-15-17					127	68	133	271	130	46	53
991	2 885	10-25-17					21	93	118	176	66	52	41
1041	877	1-17-19							270	238	88	52	25
1164	500	2-26-21									24	55	43
1165	586	2-17-21									70	13	40
1166		1-24-21									128	73	51
1167	920	12-19-20								8	94	56	43
1200	2 405	2-28-21									34	119	112
1202	650	5-27-21									132	92	55
1209	375	5-19-21									23	46	26
1286												4	36
1321													10
Total Production							256	703	1359	1394	1106	772	676
Cumulative Production							256	959	2318	3712	4818	5590	6266

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—C

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
323	935	1-13-10				923	900	670	560	470	190	145	105	7
826	600	3-16-18						610	410	300	220	115	98	7
827	785	10- 4-16				785	690	630	480	330	245	155	135	9
880	405	2-11-17												9
893	700	7-13-17					700	670	470	290	175	190	115	7
903	830	6- 3-17					813	594	443	250	190		108	8
942	815	11- 6-17					815	580	416	280		140	110	
952	825	9-19-17					825	640	460	280		142	120	8
954	790	11-15-17					790	600	520	260	210	130	90	7
972	825	9-24-17					825	600	450	271	200	105	110	7
977	840	8-27-17					840	630	480	240	190			
983	805	9-20-17					805	600	450	260	210	120	110	7
993	830	9- 4-17					830	670	430	230	210	125	95	7
1003	810	10-19-17					810	700	490	240		130	90	6
1015	710	2-27-18						690	480	240		90	60	5
1021		8-25-17					742	587	433	250	210		95	7
1035	620	8-21-18							480	230	170	72	70	4
1039	550	10-30-18							480	230	165	85	55	3
1049	570	2-20-19							542		85			1
1075	475	8-12-19							475	210		100	90	7
1088		8-28-20											143	9
1102		5-22-20								358			130	9
1109	210	11-24-19								120	90	56	50	1
1118	230	2-16-20								167	85		42	3
1125	325	6-28-20								250		115	85	6
1153	204	9-10-20								223	194	60	45	4
1166	300	5- 1-20								300		205		1
1169	280	8-26-20								320			125	9
1186	200	1- 4-21									195	105	85	7
1187	285	11-29-20								285		110	95	7
1193	250	2-17-21									248			7
1229	200	6-15-21									180	85	70	4
1266														
1320														
Rock Pressure Totals						1708	10365	9471	8949	6884	3662	2580	2526	28
Number of Readings						2	13	15	19	26	20	22	27	3
Average Rock Pressure						854	797	631	471	265	183	117	94	9

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—C

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
23	1 079	1-13-10				118	353	324	223	294	133	68	57
26	4 818	3-16-18						82	218	127	43	32	122
27	1 100	10- 4-16				61	210	122	82	53	37	18	13
80	380	2-11-17					49	22	22	25	9	6	3
83	5 252	7-13-17					125	126	244	106	35	32	23
88	10 490	6- 3-17					182	209	117	145	50	40	30
42	8 310	11- 6-17					87	424	378	320	80	46	52
52	6 018	9-19-17					57	179	210	231	94	80	58
54	5 499	11-15-17					43	176	133	197	102	53	41
72	11 712	9-24-17					197	264	140	225	89	43	25
77	6 490	8-27-17					98	182	139	155	26		
82	5 800	9-20-17					31	166	74	116	61	34	23
92	8 310	9- 4-17					39	154	95	145	52	45	18
93	4 553	10-19-17					173	408	163	182	19	19	13
09	21 875	2-27-18						50	240	334	126	53	42
21	3 706	8-25-17					20	155	137	127	44	34	18
78	5 850	8-21-18							135	207	26	19	12
89	2 227	10-30-18							70	81	23	17	11
60	8 704	2-20-19							82	170	75	52	23
73	5 253	8-12-19							30	217	123	73	35
88		8-28-20										28	17
02	1 511	5-22-20								68	144	54	61
08	213	11-24-19								22	41	47	19
18	2 073	2-16-20								81	39	36	8
29	1 117	6-28-20								53	32	27	17
33	126	9-10-20								14		10	6
38	677	5- 1-20								78	66	41	17
69	1 580	8-26-20								56	104	23	44
76	2 000	1- 4-21									107	73	54
87	920	11-29-20								12	109	51	56
92	786	2-17-21									26	70	33
23	1 700	6-15-21									25	72	37
26												20	29
30													18
Total Production						179	1664	3043	2932	3841	1940	1316	1035
Cumulative Production						179	1843	4886	7818	11659	13599	14915	15950

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—SALT AREA—C

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
205	600	11-15-10				572		442	410				
322	620	10-28-10			622	603		Sold					
324	620	6- 1-10			607	533		414		145	Abd.	6-15	1921
550	605	8- 6-13			621	617		528	404	325			
711	582	8-26-15			582	526		416		185		98	85
953	560	7-16-17						491	295			215	112
980	455	11-21-17						460	Abd.	1919			
981	490	11-10-17						490	225	Sold			
989	560	11-27-17						563	400	300		125	
1096	480	8- 2-19							493	230		200	125
1106	525	6-26-19										Sold	1921
1199	270	9- 7-20								270		120	80
Rock Pressure Totals					2432	2851		3804	2227	1455		758	402
Number of Readings					4	5		8	6	6		5	4
Average Rock Pressure					608	570		476	371	243		151	101

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—SALT AREA—CC

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
205	650	11-15-10			51	51	72	44	23	10	1		5
322	1 225	10-28-10				22	19	Sold					
324	4 650	6- 1-10				125	248	100	222	44	Abd.	6-15-21	
550	2 193	8- 6-13				127	354	195	168	150	64	18	
711	7 771	8-26-15			443	235	230	141	286	99	101	78	33
953	1 893	7-16-17					73	114	12	12	2	86	48
980	1 726	11-21-17					4	13	Abd.	1919			
981	2 907	11-10-17					7	70	116	Sold			
989	5 817	11-27-17						250	189	209	104	48	42
996	1 188	8- 2-19							21	133	73	42	17
1186	1 109	6-26-19							9	13	5	Sold	1921
1199	1 000	9- 7-20								25	71	32	32
Total Production					494	560	1007	927	1046	695	421	304	177
Cumulative Production					494	1054	2061	2988	4034	4729	5150	5454	5631

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—D

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
654	645	9- 5-14			650	570	400	330	250	180	155	135	120	
741	775	1- 9-16				780	470	430	350	220	175	195	140	
755	745	3-25-16				780	470	430	350	220	175	195	122	
834	695	10-29-16				695	540	470	370	200		135	122	
862	495	1-31-17					475	425	325	245	165	190	120	
895	605	4-16-17					620	490	390	280	230	190	140	
896	495	5- 8-17					495	395	305	200	190	180	135	
949	520	7-13-17					524	410	329	242		160	125	
976	570	10-24-17					570	480	370	280	210	190	131	
Rock Pressure Totals					650	2825	4564	3860	3039	2067	1300	1570	1155	
Number of Readings					1	4	9	9	9	9	7	9	9	
Average Rock Pressure					650	706	507	429	337	230	186	174	128	

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—D

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
184	233	9- 5-14			12	53	94	26	16	18	12	7	6
241	2 188	1- 9-16				104	259	151	105	26	25	45	24
255	4 152	3-25-16				160	262	112	97	134	36	67	43
184	2 500	10-29-16				57	141	88	67	85	18	26	27
182	8 082	1-31-17					253	76	40	13	99	68	58
185	3 757	4-16-17					29	193	138	187	102	55	36
186	3 214	5- 8-17					29	125	121	178	136	122	128
189	3 370	7-13-17					21	71	58	74	38	43	30
191	4 818	10-24-17					20	116	88	146	83	66	45
ual Production					12	374	1108	958	730	861	549	499	397
mulative Production					12	386	1494	2452	3182	4043	4592	5091	5488

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—E

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
133	915	5-15-10		620	560	470	300	280	240	200	158	115	100
138	950	4-28-10	800	715	620	550	500	425	350	315	275	210	142
145		8-24-08	637	560	461	331	208	173	149	150	104	70	80
147		10-11-08	670	580	500	400	220	200	170	150	125	87	75
148	500	7-13-08	680	600	520	350	220	170	150	130	105	80	70
150		9-9-08	630	550	470	290	210	170	110			Abd.	1922
159	875	10-16-10	570	520	440	300	280	210				Abd.	1921
206	875	1-19-11	700	600	560	490	300	250	200	160	155	120	90
215		4-20-09	700	610	500	400	220	210	170	150	135	100	80
226	850	2-23-10	540	550	460	320	220	120	140	140	95	45	Abd.
256	850	7-1-10	580	560	480	330	230	200	180	140	115	90	80
265	800	1-10-11	620	570	540	400	260	180	170	140	120		
317	820	5-6-09	742	614	555	476	283	249	246	186	161	110	80
338	700	6-25-11	620	550	450	310	250	150		Abd.	1920		
430	800	11-29-12		564	490	390	250	200	140	70	Abd.	1921	
431	775	11-13-12	700	580	540	450	260	220	180	170			80
486	507	6-6-13		570	530	440	280	230	220	170	150		80
536	755	8-5-13	805	700	600	525	450	410	345	165	140	125	122
664	575	11-23-14			560	575	350	310	250	190	170	110	
681	565	4-9-15			570	500	330	280	230	190	155	126	100
723	520	5-1-15			585	498	320	313	228	192	177	140	120
917		4-8-15				Drowned out							
919	410	5-3-15					410	410	320	171	200	150	120
920	250	10-1-15					260	270	210	150		Abd.	1922
1143	150	12-8-20								150			Abd.
Rock Pressure Totals			9994	10613	10991	8795	6611	5630	4398	3479	2540	1678	1419
Number of Readings			15	18	21	21	23	23	21	21	17	15	15
Average Rock Pressure			666	590	523	419	287	245	209	166	149	112	95

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—E

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
13	3 190	5-15-10		18	181	93	185	129	34	23	25	10	10
14	6 358	4-28-10	44	46	58	299	434	543	272	213	201	119	89
16	8 000	8-24-08	23	30	44	141	88	79	21	26	16	13	16
17	3 000	10-11-08	106	40	53	116	156	121	29	21	23	19	18
18	4 000	7-13-08	67	47	100	248	153	92	32	27	23	19	22
19	3 000	9-9-08	20	31	25	83	28	3	11			Abd.	1922
19	3 706	10-16-10	215	54	46	135	74	22				Abd.	1921
20	3 000	1-19-11	267	124	36	123	214	188	68	58	59	25	24
25		4-20-09	5	13	26	186	160	107	19	29	25	18	21
26	3 519	2-23-10	90	72	110	180	105	88	32	34	32	9	2
												Abd.	1923
26	6 018	7-1-10	97	72	87	233	246	143	36	42	27	9	24
26	2 626	1-10-11	28	34	51	72	120	66	37	24	20	3	2
27	8 174	5-6-09	112	193	116	163	438	335	171	121	116	77	74
28	2 753	6-25-11	47	35	66	150	95	19		Abd.	1920		
40	1 987	11-29-12		34	20	56	81	66	26	5	Abd.	1921	
41	7 194	11-13-12	239	163	26	137	120	139	41	34	13	13	15
46	6 383	6-6-13		106	27	156	258	139	61	30	9	11	30
26	4 552	8-5-13	11	322	265	292	220	88	91	33	14	29	18
64	1 998	11-23-14			8	79	105	28	47	30	22	16	19
65	942	4-9-15			16	79	74	10	19	12	17	13	12
73	1 475	5-1-15				66	76	10	39	30	38	15	10
67		Drowned out											
69	6 000	5-3-13					176	109	29	18	62	54	44
73	225	10-1-13					15	3	6	8	17	Abd.	1922
46	053	12-8-20								2	14	Abd.	1922
ual Production			1371	1434	1361	3087	3621	2527	1121	820	773	472	450
mulative Production			1371	2805	4166	7253	10874	13401	14522	15342	16115	16587	17037

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—F

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
125	930	12-30-09	580	540	420	220	160	120	70	70	40			
131	930	3-17-10	530	480	410	290	200	130	110	100		68	50	5
132	940	4-5-10	530	470	380	240	160	100	80	80		39	46	3
136	890	5-25-10		540	450	280	170	130	120	70		55	49	3
146	705	10-11-08	620		480	220		120			Abd.	1920		
149		12-13-08	627	549	479	263	250	115	118			60	43	4
166	800	9-5-10	560	490	450	350	310	220		60		Abd.	1922	
167	900	10-15-10	580	554	509	339	271	200	170		117	97	85	7
170	750	7-27-10			402	371	329	230		60	Abd.	1921		
204	360	11-4-10						Abd.	1918					
272	900	3-11-11	530	440	360	200	140	100		52	55	43	42	3
686	380	6-29-19			380	240	220			Abd.	1920			
696	350	12-29-19			350	280				Abd.	1920			
697	390	8-9-19			390	220		110	70	50		58	40	3
705	450	10-27-19			450	380	120			Abd.	1920			
710	425	11-9-19					290	210	130	80	60	65	50	4
978		3-16-18						130	110	72		65	50	4
Rock Pressure Totals			4557	4063	5910	3893	2620	1915	978	694	272	550	455	38
Number of Readings			8	8	14	14	12	13	9	10	4	9	9	
Average Rock Pressure			570	508	422	278	218	147	109	69	68	61	51	4

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—EBREA AREA—F

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
125	8 360	12-30-09	67	73	215	244	223	227	101	50	17	1	
131	13 765	3-17-10	75	24	98	95	102	94	57	28	28	16	13
132	5 790	4-5-10	115	9	113	73	60	58	84	23	5	16	14
136	7 640	5-25-10		39	54	138	116	158	82	58	34	21	16
146	3 000	10-11-08	12		32	70	33	20	9		Abd.	1920	
149	1 380	12-13-08	92	37	89	172	158	115	83	42	37	18	13
166	184	9-5-10	3	2	20	10	23	32	41	9		Abd.	1922
167	6 358	10-15-10	528	45	20	273	142	99	16	8	30	31	24
170	393	7-27-10	22		21	9	28	30	113	9		Abd.	1921
204	083	11-4-10	12						Abd.	1918			
272	9 293	3-11-11	59	49	206	193	184	134	33	6	34	29	23
686	1 419	6-29-15			12	66	48	3		Abd.	1920		
696	877	12-29-15			46	139	83	19			Abd.	1920	
687	2 828	8-9-15			77	106	111	101	68	50	33	18	14
705	354	10-27-15			21	87	34	5		Abd.	1920		
710	12 299	11-9-15				91	352	390	336	68	86	46	33
978	1 200	3-16-18						163	165	90	60	33	17
Total Production			985	278	1024	1766	1697	1648	1188	441	364	229	167
Cumulative Production			985	1263	2287	4053	5750	7398	8586	9027	9391	9620	9787

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	192
126	930	3-19-10	460	400	260	180	140	120	90	50		45	4
139	900	5-16-10	430	380	260	180	130	90	70	60			3
156	960	7-18-10	440	400	270	180	140	100	70	70		40	3
157	920	8-2-10	450	390	260	170	140	100	80	60		55	3
158	900	10-14-10	440	380	280	170	140	100	70	60	55	46	3
199		11-4-10	470	350	280		180		Abd.	1919			
266	900	12-12-10	440	400	320	160	140	80		80	50	44	3
318	435	9-29-10										Abd.	192
321	790	6-2-10	440	390	260			80				Abd.	192
336	850	5-16-11	480	400	280			120	100	70		Abd.	192
337		6-17-11	449	391	272	200	150	105	80	45		Sold	192
354	645	11-2-11	440	400	290	200	170	70	70	50		50	5
357		3-3-11	460	390	260	200	140	100	90	Abd.	1920		
358	600	5-27-11	450	390	270	200	140	110	100			40	4
372	650	2-10-12	480	380	260	200	100	70	100	53		20	•1
396		4-21-12	450	365	238		130	110		Abd.	1920		
539	650	11-21-12	490	330	250	180	80	60	70	50		39	•3
540	650	4-26-13		340	260	160	70	60	60	60		45	5
549	357	6-11-13		400	270	190	150	110	90	55		55	4
572		8-29-13		375	249	193	53	47	Abd.	1919			
586		3-2-14		340	263	194	115	90		80		Abd.	19
632	320	10-31-14			270	180	130	90	60	50		49	4
678	265	6-22-15			270	210	140	60			Abd.	1920	
699	250	10-9-15			250	180	130	90	80	72		47	
886		2-20-16						92	60	62		51	
Rock Pressure Totals			7269	7591	6142	3527	2708	2054	1340	1027	105	626	5
Number of Readings			16	20	23	19	21	23	17	17	2	14	
Average Rock Pressure			454	380	267	186	129	89	79	60	53	45	

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—G

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
126	12 500	3-19-10	303	155	179	205	109	76	41	12	21	21	28
139	24 932	5-16-10	170	99	230	91	47	103	69	21	12	12	13
156	8 310	7-18-10	135	74	83	127	70	59	55	13	23	19	10
157	9 293	8-2-10	106	19	85	47	23	18	4	19	13	9	11
158	9 293	10-14-10	105	9	39	126	107	51	63	33	26	25	20
159		11-4-10	16	10	16	2	14		Abd.	1919			
266	7 500	12-12-10	138	22	106	122	55	66	11	9	17	14	9
318	3 084	9-29-10	30	29	41	45	8	18	2	4	2	Abd.	1922
321	5 376	6-2-10	94	55	92	25	16	26	10	5		Abd.	1922
336	9 097	5-16-11	222	82	324	220	123	98	40	30	11	Abd.	1922
337	10 170	6-17-11	195	34	111	111	30	19	22	21	4	Sold	1921
354	3 706	11-2-11	178	140	58	30	34	20	8	30	22	15	20
357	2 626	3-3-11	232	21	65	58	25	18	1	Abd.	1920		
358	880	5-27-11	210	39	52	57	24	20	8		11	3	4
372	5 726	2-10-12	325	99	92	67	39	14	1	19	12	3	Abd. 1923
396	2 753	4-21-12	81	54	65	12	36	28		Abd.	1920		
439	2 100	11-21-12	167	106	90	27	11	4	4	15	7	4	Abd. 1923
440	1 800	4-26-13	294	91	133	9	8	3	17	13	11	19	16
469	5 842	6-11-13		92	191	200	100	83	43	21	46	28	33
472	2 514	8-29-13		216	115	21	8	3	5	Abd.	1919		
496	2 974	3-2-14		44	176	137	70	96	86	39	13	1	Abd. 1922
502	2 514	10-31-14			141	166	75	143	85	67	51	26	22
528	892	6-22-15			7	19	44	7		Abd.	1920		
549	2 616	10-9-15			37	269	173	160	93	67	22	26	
586	2 500	2-20-16						34	58	42	25	17	16
Annual Production			3001	1490	2528	2193	1249	1167	726	480	349	242	202
Cumulative Production			3001	4491	7019	9212	10461	11628	12354	12834	13183	13425	13627

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	192
143			825	446	387		183		Abd.	1919			
160		7-24-10									Abd.	1921	
165	910	9-14-10	600	410	340	245	180	150	110		85	75	6
523	795	2-28-13		303	243	215	125	63	Abd.	1919			
537	650	4-23-13	600	296	255	215	135	100	80			50	3
538	650	4-25-13	600	306	256	187	135	20	Abd.	1918			
543	405	5-17-13	400	290	256	215	140		50			53	4
562	575	7-26-13	510	329	233	198	140	60	40	30			Ab
651	360	9-19-14			260	240	175	150	120	90		70	5
679	330	12-20-13			298	235	205		170			53	4
831	220	8-7-13				230						Abd.	192
Rock Pressure Totals			3535	2380	2528	1980	1418	[illegible]	570	120	85	301	24
Number of Readings			6	7	9	9	9	6	6	2	1	5	
Average Rock Pressure			589	340	281	220	158	(91)	95	(60)	(85)	60	4

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—H

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
163			19	15		4	18	23	Abd.	1919			
160		7 24 10		2	7	3	10	3			Abd.	1921	
165	13 765	9 14 10	353	225	88	105	172	128	69	37	27	36	33
323	5 000	2 28 13	323	90	129	59	1	7	Abd.	1919			
557	3 700	4 23 13	423	301	92	64	15	15	31	17	15	11	16
558	2 250	4 25 13	245	161	103	37	47	5	Abd.	1918			
563	4 225	5 17 13	202	210	103	61	10	3	62	34	21	23	22
562	3 214	7 26 13	89	201	91	84	24	13	10	9	5	1	Abd. 1923
651	3 020	9 19 14			323	321	195	190	183	184	106	68	38
679	1 225	12 20 13			33	121	37	50	53	36	15	12	9
681	829	8 7 13				1	34	10		2	Abd.	1921	
Annual Production			1654	1205	969	860	563	447	408	319	189	151	118
Cumulative Production			1654	2859	3828	4688	5251	5698	6106	6425	6614	6765	6883

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—I

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
151	975	7- 9-09		490	390	260	220	170	140	110		58	60	5
462	895	1-13-13	600	440	380	270		135	118	98		70	70	6
541	625	7-29-13	600	400	380	280	220	160	105	98		95	80	8
560	545	10-18-13	545	450	380	280	240	120			Abd.	1921		
561	525	10-22-13	525	410	350	250	180	130	105		Abd.	1921		
Rock Pressure Totals			2270	2190	1880	1340	860	715	468	306		223	210	19
Number of Readings			4	5	5	5	4	5	4	3		3	3	3
Average Rock Pressure			568	438	376	268	215	143	117	102		74	70	6

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—I

	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	4 000	7- 9-09	203	225	100	100	194	42	97	74	52	48	18
	4 818	1-13-13	455	166	17	74	88	66	58	47	24	20	13
	2 841	7-29-13	79	93	13	45	86	88	61	31	33	27	16
	1 826	10-18-13	59	206	10	100	178	68			Abd.	1921	
	1 890	10-22-13	24	116	19	99	143	81	40	10	Abd.	1921	
Production			820	806	159	418	689	345	256	162	109	95	47
lative Production			820	1626	1785	2203	2892	3237	3493	3655	3764	3859	3906

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—J

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
124		6-30-09	972	714	495	310	205						Abd.	192
144	387	10-30-08	900	580	440	280	200	140	130	105	90	72	58	4
432	960	10-10-12	950	690	550	320		155	96			52	50	6
454	920	12-8-12	960	640	440	300	200	120	100	80		53	54	4
542	415	10-13-15			415	270	180	112				Abd.	1922	
600	885	6-20-14		885	570	410		125				54	50	4
626	850	7-16-14		808	568	343	122	Sold	1918					
649	695	9-3-14		695	610	480	220	138	107	95		55	62	6
685	510	7-2-15			510	280	170	80	85	52		140	48	3
698	450	8-9-15			425	270	180							3
702	525	5-15-15			525	200	170	Sold	1918					
774	285	8-1-16					130	90	72	62		30	40	
975	160	7-7-18						150	120	120	90	62	48	5
Rock Pressure Totals			3782	5012	5548	3463	1777	1110	710	514	180	518	410	35
Number of Readings			4	7	11	11	10	9	7	6	2	8	8	
Average Rock Pressure			945	716	504	315	178	123	101	86	90	65	51	4

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—J

ell o.	Initial Open Flow	Date Com-pleted	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
24	4 000	6-30-09	35	93	213	116	52	19	25	13	16	7	Abd. 1922
44	5 000	10-30-08	70	175	69	60	54	41	36	24	10	14	9
02	3 706	10-10-12	24	39	83	77	62	41	33	9	16	13	7
64	7 863	12-8-12	196	470	170	148	106	102	77	35	43	26	19
42	3 578	10-13-15			6	152	41	140	81	18	39	Abd.	1922
00	8 310	6-20-14		116	944	357	197	83	31	6	30	18	12
26	5 821	7-16-14		70	347	93	31	14	Sold	1918			
49	8 682	9-3-14		47	562	595	186	78	24	24	29	27	21
05	3 300	7-2-15			46	88	73	86	48	23	19	6	8
98	5 127	8-9-15			221	162	117	220	167	91	30	30	6
02	1 419	5-15-15			15	55	19	Sold	1918				
74	1 784	8-1-16				26	38	20	34	40	29	15	6
85	168	7-7-18						5	11	10	7	7	8
al Production			325	1010	2676	1929	976	849	567	293	268	163	96
mulative Production			325	1335	4011	5940	6916	7765	8332	8625	8893	9056	9152

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—K

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
824	570	8-29-16				600				160		64		3
837	355	11-27-16				355		135		Abd.				
840	352	1-18-17					350	150		90			55	4
841	560	11-14-16				580				100		55	50	4
876	272	2-26-17					272	140		90		61	54	4
877	355	2- 2-17					310	205	125	150		118	75	6
879	215	2- 6-17					200	190		Abd.	1920			
910	345	5-25-17					330	200	150	110		95	70	6
931	385	8-16-17					407	280	175	150		75	78	7
1050	325	2-26-19							240	195	110	102	68	7
1119	145	3-10-20								110		68		Ab
														192
Rock Pressure Totals						1535	1869	1300	690	1155	110	638	450	43
Number of Readings						3	6	7	4	9	1	8	7	1
Average Rock Pressure						512	312	186	173	128	110	80	64	5

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—K

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
24	8 309	8 29 16				502	295	86	41	16	10	4	23
37	1 301	11 27 16				6	78	22	9	Abd.			
40	9 500	1 18 17					474	211	60	27	11	27	23
41	4 000	11 14 16				84	61	20	19	20	17	17	10
76	3 657	2 26 17					157	92	29	17	30	28	19
77	1 943	2 2 17					357	209	80	72	35	23	19
79	1 117	2 6 17					38	21	15	Abd.	1920		
90	2 900	5 25 17					30	176	67	33	10	22	13
91	3 437	8 16 17					47	181	126	50	28	20	11
50	1 225	2 26 19							140	91	18	26	12
19	106	3 10 20								12	5	4	1
													Abd. 1923
tal Production						592	1537	1018	586	338	164	171	131
mulative Production						592	2129	3147	3733	4071	4235	4406	4537

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—BEREA AREA—

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
985	635	9-15-17					635	475	275			225	104
1051	435	3-20-19							450	180	140	105	74
1055	595	5-21-19										132	86
1120													91
1121	305	4-30-20								205		105	80
1122	240	11-19-20								242			83
1141		1-24-19								159		92	68
1191	220	1-21-21									220	125	95
1230	150	5-12-21									145	110	73
Rock Pressure Totals							635	475	725	786	505	894	754
Number of Readings							1	1	2	4	3	7	9
Average Rock Pressure							635	475	363	197	169	128	84

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—BEREA AREA—L

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
985	5 500	9 15 17					217	1138	457	104	12	20	37
1051	4 550	3 20 19							526	294	73	66	49
1055		5 21 19								3	12	20	3
1120		..								92	93	13	73
1121	3 250	4 30 20								173	145	58	31
1122	1 000	11 19 20								12	59	6	14
1141	2 800	1 24 19								93	86	44	23
1191	2 500	1 21 21									165	9	70
1200	300	5 12 21									23	19	15
Total Production							217	1138	983	771	668	255	315
Cumulative Production							217	1355	2338	3109	3777	4032	4347

1318

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—SPENCER SAND—INJUN AREA—M

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
463		3- 4-14			600	585		545		495		450	430	25
501		4-24-13			652	635		585		•585		•475	460	43
590		2-22-14			610	574		435		330		280	•270	26
714		7- 6-15			588	590		433		335		•295	272	28
715		12-17-15				600		440		370		280	234	28
878	470	5- 2-17						461		429		•280	250	25
1123	344	10-31-20								344		•270	234	23
Rock Pressure Totals					2450	2984		2899		2888		2330	2150	196
Number of Readings					4	5		6		7		7	7	7
Average Rock Pressure					613	597		483		413		333	307	28

•Estimated

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—SPENCER SAND—INJUN AREA—M

ell a.	Initial Open Flow	Date Com-pleted	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
3	213	3- 4-14			2	43	81	87	71	59	45	55	41
1		4-24-13				14	58	25	8	11	25	20	18
0	725	2-22-14			3	62	192	115	25	32	25	5	20
4	1 187	7- 6-15				39	155	139	117	83	56	70	61
5	338	12-17-15				29	125	95	66	50	50	48	33
8		5- 2-17							77	135	68	45	29
3	1 295	10-31-20								2	72	79	82
l Production					5	187	611	461	364	372	341	322	284
ulative Production					5	192	803	1264	1628	2000	2341	2663	2947

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	192
257		4-20-10	440		350	335		267	244	237	220	227	15
436	450	11-18-12	449		200	310		265	223	215		215	19
449	410	3-18-13	409		285	280		215	178	170		155	16
482	450	4-4-13	446			285	245	212				D. O.	
488	400	5-7-13	485		425	375			292	206		80	4
489	490	4-28-13	495			300	245	220	185	165	D. O.	D. O.	3
510	410	4-21-13	445		400	330	285	270	248			200	20
524	510	2-7-13	501		377	347		250	202	160	100	100	6
528	375	6-1-13	455	465	304	285	168		135			100	8
530	430	6-9-13	475		375	370		320	275	250		231	*20
545	420	5-31-13	458		315	285		210	185	110		D. O.	10
553	420	5-2-13	410		310	265		165		Abd.	1920		
563	485	8-23-13	431			270	225	195	119	95		55	6
571	450	9-10-13	493	470	392	330		270	208	175		100	12
573	315	8-17-14				290	225	228		150	98	65	4
588	420	12-10-13	420					226	170	170	100	135	10
617	300	11-19-13				270		200	150	95	85	D. O.	Abd
618	300	8-17-14				275	225	155	140		98	40	3
619	330	12-20-13	340	340	305	280	215	210	170	135	100	125	10
620	355	2-3-14		355	300	285	215	200	150	130	98	95	8
621	400	2-5-14		418	393	340		180	190	112	40	Abd.	3-1
622	390	2-25-14				335	292	250	150	125	105	75	3
635	350	10-3-14		350	340	320	270	235	190	175	100	100	9
636	410	10-11-14		420	404	365	308	280	225	225	100	65	9
645	410	8-11-14			371	300	250	215	145	84		70	5
646	360	8-6-14		370	383	300	252	225	165	122		115	8
872	405	1-29-17					405	273	200	142		155	14
909	260	2-19-17					266	275		115		80	6
1028	275	7-24-18							97	75			
1029	225	9-16-18						255			Oil		
1035	270	7-12-18						270	210	210		180	13
1053	225	4-24-17							208	165		175	*17
1060		9-8-19							275	114		80	7

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—A

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
257	3 214	4-20-10	49	36	41	28	30	16	7	8		27	15
436	1 511	11-18-12	62	188	168	100	56	60	74	71	92	124	98
449	857	3-18-13	12	17	21	119	75	71	102	101	99	96	105
482	554	4- 4-13	15	28	21	18	26	19	15	4	2	1	1
488	551	5- 7-13	13	77	102	41	25	44	15	20	30	10	3
489	1 679	4-28-13	29	342	57	97	227	118	197	153	D. O.		2
510	786	4-21-13	45	245	238	127	72	62	69	107	135	144	108
524	3 175	2- 7-13	91	151	96	74	132	133	159	157	53	65	27
528	1 439	6- 1-13	56	26	24	39	21	16	6	6	41	42	19
530	527	6- 9-13	44	158	186	125	94	91	105	217	247	241	159
545	998	5-31-13	51	400	82	82	144	147	189	68	28	20	14
553	540	5- 2-13	8	15	5	8	9	6		Abd.	1920		
563	2 767	8-23-13	5	13	22	9	16	15	7	10	29	21	11
571	1 024	9-10-13	18	22	32	46	55	30	40	22	14	20	16
573	1 225	8-17-14		21	96	79	109	55	89	96	26	24	3
588	1 741	12-10-13		115	62	96	98	57	84	75	52	21	19
607	1 117	11-19-13		5	6	10	21	20	4	4	1	D. O.	Abd. 1923
618	304	8-17-14		7	9	25	31	9	10	7	7	9	2
619	1 225	12-20-13		8	7	21	27	21	41	39	12	17	2
620	2 251	2- 3-14		30	109	107	159	129	163	162	53	70	102
621	999	2- 5-14		19	27	20	9	4	6	8	12	Abd. 3-10-22	
622	712	2-25-14		43	94	101	126	101	61	76	36	35	7
635	1 117	10- 3-14		8	50	39	44	49	62	55	18	21	16
636	2 278	10-11-14					132	102	126	115	33	22	13
645	600	8-11-14			40	52	36	27	28	16	17	11	12
646	600	8- 6-14		5	49	70	42	35	36	27	18	33	22
672	4 553	1-29-17					43	9	169	207	140	211	202
699	550	2-19-17					27	56	43	31	17	21	13
828	575	7-24-18							129	53		Oil	
829	680	9-16-18							64	27	Oil		
885	1 590	7-12-18						2	186	188	134	155	138
893	963	4-24-19							60	94	83	89	61
960	960	9- 8-19								77	52	59	41

ROCK PRESSURE DATA—Continued

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	192
1080	245	9- 2-19							155	147		57	•9
1081	210	8-30-19							175		Oil		
1082	180	11-10-19							180	132		90	8
1083	280	10-14-19							280	115			9
1084		1-13-20								49			
1085	260	9- 6-19							223	163	119	133	7
1087	230	9- 9-19							205	122			7
1094		10- 6-19								159		77	8
1097		12-22-19											
1113	315	9-10-19							315	65		(15)	Abs
1114	230	9-19-19							230	53	100	(17)	
1125	225	9- 9-19								132		90	7
1126	225	12-16-19								137		43	•3
1127	225	12-17-19								62		D. O.	Abs
1128	300	8-26-19								185		148	12
1139		2-14-20								175		D. O.	Ex
1140		6-22-20										158	14
1189	215	2- 3-21									154	170	14
1302	165	4-17-23											
1342	155	9- 1-23											
Rock Pressure Totals			6706	3198	5744	7442	3216	6169	6712	5291	1043	3727	372
Number of Readings			15	8	16	24	13	26	34	38	11	33	3
Average Rock Pressure			447	400	359	310	247	237	197	139	(95)	113	9

*Estimated.

ANNUAL PRODUCTION—Continued

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—A

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
100	1 109	9-2-19							16	204	47	40	
101	685	8-30-19								65	Oil		
102	685	11-10-19								84	67	74	50
103	800	10-14-19								79	47	1	Used at Gas. Plt.
104	700	1-13-20								22			
105	880	9-6-19								52		1	28
107	700	9-9-19							7	72	47	1	Gas Used on Lease
104	497	10-6-19								37	19	10	9
107	248	12-22-19								20	14	1	
113	9 800	8-10-19							6	24	11	2	Abd. 1922
114	2 777	9-19-19							3	7	10	3	1
115	1 054	9-1-19								80	76	73	38
116	578	12-16-19								58	33	10	Abd. 1923
117	780	12-17-19								32	2	Abd.	1922
118	680	8-26-19								50	42	28	35
119	728	2-14-20								39	36	D. O.	Exh.
140	1 054	6-22-20								35	125	146	131
189	290	2-3-21									26	27	10
192	134	4-17-23											20
192	605	9-1-23											16
ual Production			498	1989	1644	1533	1886	1504	2378	3261	2083	2026	1567
ulative Production			498	2487	4131	5664	7550	9054	11432	14693	16776	18802	20369

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—SQUAW AREA—A-

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
280					316	300		195	133	98			65
316	520	5-4-11	(520)	420	372	345		279	253	245	(220)	155	142
341	440	9-28-11			365	336		285	190	175		130	95
342	465	10-5-11			358	350		250		187		100	95
343	450	12-1-11			332	325		200	180	132		82	
458			(400)		316	291		250	150	120		D. O.	Abd.
591		12-24-13		410	327	315	(175)	(150)				75	70
597	320	B.L. & Squaw 5-22-14			(305)	(235)	(200)					*80	70
599	370	5-11-14			345	313		(207)		192		100	90
Rock Pressure Totals				830	2731	2575		1459	906	1149		722	627
Number of Readings				2	8	8		6	5	7		7	7
Average Rock Pressure				415	341	322		243	181	164		103	90

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—SQUAW AREA—A-A

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
30			76	55	58	22	81	51	49	39	41	33	24
36	7 191	5-4-11	221	64	131	98	39	48	19	18	13	190	150
41	4 138	9-28-11	202	123	83	111	238	153	261	218	7	52	9
42	3 196	10-5-11	81	53	57	54	68	66	77	69	42	41	31
43	1 302	12-1-11	49	33	32	29	37	52	60	41	26	26	5
68			77	69	44	22	57	63	91	35	28	Abd.	6-2-22
91	1 301	12-24-13		54	45	20	14	15	50	40	37	43	13
97	BL 186	B.L. & Squaw											
5a	2 018	5-22-14		5	26		24	12	41	31	37	39	23
99	3 536	5-11-14		13	9	47	80	140	119	94	65	71	80
al Production			706	469	485	403	638	600	767	585	296	495	335
mulative Production			706	1175	1660	2063	2701	3301	4068	4653	4949	5444	5779

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—B

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
8	500	12-26-03	422	415	410	408	370	350	Abd.	3-11	19			
14	505	12-22-05	(410)		(410)	(405)		(340)	(318)		(295)	(260)	230	21
25	520	12-6-05	402	370	(367)	358		305	295	277		285	225	17
26	505	5-14-07	408	395	(382)	386		324	305	272		245	230	19
28	500	8-13-06	436	413	420	417		Abd.	2-23	18				
29	505	7-2-06			410	400			330	295	280	250	220	20
31	505	10-30-06	440	425	425	396		337	298	272	240	245		16
33	480		447	425	419	401		333	285	263	237	220	170	15
39	505	5-14-07	410	390	388	375		325	300	272		245	200	17
43	500	11-15-07	432	410	400	410	399	340	318	300		308	252	22
45	505	3-15-08	425	395	387	376	(300)	317	305	277		252	230	19
53	530	4-2-09	436	417	408	400	366	350	313		270	(180)	220	20
118	515	4-18-07	442	415	406	395	320	316	300		(245)	260	240	20
129	490	3-2-10	432	417	408	401		340	330	295		230	210	19
232	425	12-27-11	424	417	409	404	(305)	333	309	295	284	252	225	19
235	400	3-14-10	(427)	(405)	(401)	396		335	310	302	292	255	225	20
255	450	4-19-10	423	407	420	(395)	355	350	316	298	275	245	205	20
398	460	7-25-12	445	415	408	400		338	320	290		262	235	19
422	500	10-5-12	448	417	419	411		359	339	303	286	240	225	20
466	390	7-3-15			385	383	330	317	290	270	250	245	205	17
477	430	7-8-13	455	430	411	394		326	300	292		260	235	19
478	445	3-28-13	468	440	417	400	360	327	308	298	274	262	238	20
480	450	6-5-13	477	450	432	402	365	342		258		200	180	15
481	425	4-21-13	493	460	426	392	380	340	310			195	180	16
525	410	3-9-13	477	445	428	406	341		295	218		153	133	11
544	400	9-11-13	402	390	379	373	343	318	305	280		255	215	18
555	430	7-9-13	428	435	414	404	360	345	300	280		250	195	17
565	425	12-6-13		460	432	410	365	344	317	305		265	240	20
577	430	7-16-15			430	414	380	350	310	249		220	200	17
579	427	5-15-13		430	416	396		323	300	292	263	235	228	19
584	430	11-15-13		465	447	437		350	318	285	270	240	240	20
611	455	5-27-14		(475)	458	424		370	322	(365)		295	202	
628	375	11-24-14			373	369	318	315	305			252	220	18
629	390	1-27-15			390	383	332	315	305	277		259	215	17

ANNUAL PRODUCTION

(Millions Cubic Feet)

IELD—CLENDENIN SAND—INJUN AREA—B

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
8 616	12 26 03	153	57	5	32	26	73	Abd.	3 11	19		
7 038	12-22 05	59	20	2	30	132	53	47	58	56	102	69
7.075	12 6 05	100	56	10	61	51	67	70	65	74	69	77
6.075	5 14 07	63	31	13	23	54	31	37	29	16	11	12
7.182	8 13 06	5	8	2	2	7	Abd.	2 23	18			
2 950	7 2 06			2	6	41	68	32	69	21	32	22
4 553	10 30 06	67	40	69	46	36	21	22	21	3	1	53
6 075		72	49	79	72	80	62	60	58	11	35	104
6 075	5 14 07	34	18	31	32	30	35	36	33	12	19	77
2 551	11 15 07	14	44	119	61	17	92	71	49	39	45	40
5 198	3 15 08	72	45	9	42	50	48	45	37	28	47	22
3 687	4 2 08	11	12	2	5	76	27	24	29	13	8	22
10 500	4 18 07	155	46	32	35	57	50	49	36	35	53	50
7 475	3 2 10	3	10	2	5	66	52	25	40	34	41	26
2 356	12 27 11	14	7	2	7	82	39	40	36	31	47	36
10 170	3 14 10				48	117	46	62	67	65	109	88
2 626	4 19 10	7	7	4		70	61	32	25	25	42	30
6 079	7 25 12	103	175	3	14	119	105	48	68	42	30	17
5 253	10 5 12	9	4	5	27	37	31	22	13	13	21	27
1 179	7 3 15			10	51	36	45	48	45	17	35	174
2 652	7 8 13	40	69	86	47	106	57	62	37	34	46	52
5 571	3 28 13	50	79	85	56	105	75	79	47	12	28	34
766	6 5 13	19	34	61	48	93	54	91	17	98	97	79
1 224	4 21 13	24	46	70	28	41	34	58	121	101	170	132
1 770	3 9 13	4	5	15	8	22	13	39	95	13	23	42
1 136	9-11-13	10	40	60	5	53	75	39	21	11	39	42
1 987	7 9 13	17	24	2	7	110	52	64	51	26	54	121
5.817	12 6 13		71	59	86	155	140	123	88	56	103	100
2 079	7 16 15			29	62	89	60	84	262	220	153	126
2.797	5 15 13		34	27	46	68	68	56	36	32	43	42
3 959	11 15 13		14	2	14	101	59	48	40	45	60	49
2 937	5 27 14			73	7	124	96	88	66	67	39	19
2 185	11 24 14			18	38	81	45	46	32	26	19	27
2 251	1 27 15			19	39	78	39	45	35	28	25	24

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—B

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
667	400	4- 2-15			382	373	325	318	315	280		250	225	
671	400	5-20-15			402	397	350	325	308	295		268	232	
682	370	7-27-15			(363)	363	335		300	267	(280)	255	225	
691	400	8-17-15				398	(310)	325	315	287		(295)	230	
692	400	10-30-15				394	380	332	300	295		268	230	
718	415	10- 7-15				416		362	346	(335)	293	260	240	
727	400	12-16-15				393	360	327	300	270		260	230	
728	410	11-15-15				402	355	338	295	258		202	170	
730	385	12-13-15				385	360	323	300	268	(240)	240	210	
930	360	7- 4-17						331	300	295		268	240	
964	345	4- 2-18						335	315	287		260	240	
1057	310	12- 8-19								300		240	210	
1103	325	1-27-20								325		220	195	
1124	310	3-23-20								293		265	225	
1133	280	7-30-20								281		250	252	
1190	210	11-30-20												
1267	250	8- 9-22											215	
1268													243	
1284	290	2-27-23												
1285	250	12- 9-22											228	
1303	217	1-20-23												
1305	190	4- 6-23												
1344	250	12- 4-23												
1345	200	8- 4-23												
1351	245	10-24-23												
Rock Pressure Totals			10072	10948	13159	16242	8169	13350	12652	10991	3514	10896	10206	
Number of Readings			23	26	32	41	23	40	41	39	13	44	49	
Average Rock Pressure			438	421	411	395	355	334	309	282	270	248	210	

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—B

ell o.	Initial Open Flow	Date Com-pleted	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
7	1 892	4- 2-15			17	18	76	43	52	37	26	20	22
1	3 490	5-20-15			31	27	70	59	55	36	26	37	33
2	1 119	7-27-15			17	9	71	67	34	36	25	23	12
1	3 493	9-17-15				7	109	107	84	62	39	37	38
2	1 592	10-30-15				34	83	68	71	51	43	66	47
8	1 25	10- 7-15				23	48	49	27	35	26	38	45
7	1 117	12-16-15				32	49	29	27	21	16	28	40
8	2 192	11-15-15				63	73	82	54	50	12	17	44
0	999	12-13-15				25	42	39	39	38	9	30	119
0	1 930	7- 4-17						77	75	58	43	58	71
4	1 120	4- 2-18						19	31	23	19	24	12
7	4 257	12- 8-19								43	35	37	32
3	1 119	1-27-20								14	18	11	23
1	2 100	3-23-20								20	25	32	70
3	1 300	7-30-20								6	32	39	24
0	1 700	11-30-20								11	1		
7	500	8- 9-22										14	33
8												18	30
4	431	2-27-23											27
5	789	12- 9-22											24
3	1 187	1-20-23											229
5	915	4- 6-23											59
4	1 770	12- 4-23											
5	586	8- 4-23											
1	1 593	10-24-23											16
Production			1105	1045	1072	1328	3031	2511	2241	2267	1699	2175	2885
lative Production			1105	2150	3222	4550	7581	10092	12333	14600	16299	18474	21359

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—C

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
42	480	4-30-07	385	(352)	369	(299)	325	323	280	270		250	185	1
46	505	5- 4-08	370	362	341	330		306	285	239		D.O.	190	1
121	450	5-10-09	372	357	352	340		(300)	305	(248)		265	195	1
175	505	9-20-10	383	377	(385)	363		330	285	280		245	185	1
180	443	1-18-11	388	(367)	(386)	361	340	335	290	280		255	210	1
225	480	10-28-11 1908	(425)	(435)	442	428		353	285	275		240	*205	1
293	440	8-9-11	(400)		(330)		(310)	(265)				(245)	205	(
627	355	10- 4-14			(356)	358		(300)	300			263	205	1
764	380	11-16-16				(390)		325	265	250		230	170	1
950	320	9- 4-17					315	300	283	251		265	200	1
Rock Pressure Totals			1898	1096	1504	2180	980	2272	2578	1845		2013	1950	19
Number of Readings			5	3	4	6	3	7	9	7		8	10	
Average Rock Pressure			380	365	376	363	327	(325)	286	264		252	195	1

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—C

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1021	1922	1923
		1909											
42	2 923	4-30-07	13	52	56	19	8	35	31	22	34	34	99
46	6 089	5-4-08	31	17	23	3	21	25	6	17	5	12	8
121	5 100	5-10-09	43	41	21	23	20	39	23	20	23	23	25
175	1 802	9-20-10	21	52	47	33	42	53	38	26	33	48	75
180	3 214	1-18-11	31	105	92	48	47	68	49	38	44	64	154
225	1 671	10-28-11	7	39	21	25	57	45	25	18	17	25	31
		1908											
353	789	8-9-11	72	56	45	74	73	59	48	47	67	73	56
427	2 929	10-4-14			29	32	38	38	20	25	20	20	17
464	1 119	11-16-16					71	105	122	76	92	91	50
550	2 626	9-4-17					8	37	34	26	28	24	29
Annual Production			218	362	334	257	385	504	396	315	351	414	544
Cumulative Production			218	580	914	1171	1556	2060	2456	2771	3122	3536	4080

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—CC

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
746	500	2- 9-16				493	480	460	400	385	(391)	370	340	3
941	475	6-13-17					(393)	(420)	430	425	(424)	370	260	2
Rock Pressure Totals						493	480	460	830	810		740	340	6
Number of Readings						1	1	1	2	2		2	1	
Average Rock Pressure						493	480	460	415	405		370	340	3

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—CC

ll	Initial Open Flow	Date Com-pleted	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
6	3 706	2-9-16				7	182	162	150	148	92	109	185
	513	6-13-17					32	85	43	62	28	20	19
l Production						7	214	247	193	210	120	129	204
ulative Production						7	221	468	661	871	991	1120	1324

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—[illegible]

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
41	...	8- 8-07	310	310	310		270					190	*160
48	505	6-23-08	360	340	326	321				205		172	147
54	500	5-30-09	325		314	309		250		239		175	*150
56	(205)	9-24-09	313		295	297	250	260				190	118
141	390	6-11-10	308	310	310	308	280			200		185	160
142	410	7-22-10	333	320	335	320	303	285	247	235		192	170
161	375	8- 1-10	315		310	305	320	280		200		185	170
179	425	4-22-10	315	312	308			260		240		175	190
198	385	8- 3-10	322		307	305		265	206	200		170	155
209	505	12-17-10	470		303	303	260			210		180	175
211	510	3-28-10	381	340	300	300	250			172		140	110
212	525	12-28-06	360	345	336					218		200	D.O.
241	425	12-18-09	320		308	303		260		195		*200	180
246	420	3- 5-10			316	300			220	175		(90	D.O.
258	505	1- 8-11	340	345	347	329	220	310	257	247		210	200
1205	230	7-11-23											
1307	200	9-13-23											
1323	195	11-29-23											
Rock Pressure Totals			3011	1651	3820	3700	1093	2170	724	2736		2564	2085
Number of Readings			9	5	12	12	4	8	3	13		14	13
Average Rock Pressure			335	330	318	308	273	271	241	210		183	161

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—D

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
41	8 265	8- 8-07	49	62	28	16	196	165	147	103	109	105	40
48	6 650	6-23-08	180	28	24	15	2	41	183	107	148	180	132
54	2 082	5-30-09	34	27	21	12	85	71	55	14	19	16	9
56	2 000	9-24-09	19	15	9	5	66	59	48	30	43	38	37
141	3 039	6-11-10	33	25	17	7	180	225	167	76	125	180	148
142	2 303	7-22-10	19	75	32	19	12	9	5	13	18	36	97
161	5 083	8- 1-10	52	110	47	53	3	55	248	186	250	307	260
179	1 224	4-22-10	44	25	20	16	70	74	60	4	65	56	14
198	2 753	8- 3-10	40	71	42	33	192	177	125	61	99	120	107
199	2 352	12-17-10	57	53	26	16	106	119	113	50	126	143	119
231	2 626	3-28-10	25	23	10	9	48	44	35	26	27	30	38
232	3 108	12-28-06	91	11	15	14	6	23	64	39	10	140	
241	2 357	12-18-09	33	24	11	7	102	89	88	53	31	21	32
246	2 190	3- 5-10	51	31	14	24	17	33	20	18	6	11	32
258	1 119	1- 8-11	12	19	26	17	31	13	6	6	7	32	23
285	789	7-11-23											7
307	969	9-13-23											5
323	1 008	11-29-23											
Annual Production			739	599	342	263	1116	1210	1364	786	1083	1415	1100
Cumulative Production			739	1338	1680	1943	3059	4269	5633	6419	7502	8917	10017

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
229	410	10- 7-09			310				270			192	190
234	450	11-17-09	363	350	347	315	320	300	275	270	230	210	190
244	460	1-15-10	355		331	333		290	270	250		220	185
288	380	10-25-10		320	310	306			268	240		210	200
294	505	1- 9-11		330	331	275		285	255	214	189	180	145
329	400	7- 9-11	365	368	360	341		310	290	248		200	195
344	440	10-21-11	385	385	374	365		310	290	270		235	210
594	360	5-23-14		360	337	347	318			277	275	238	
606	380	2-24-15			380	377	370	300	293	275	250	220	205
625	380	9-30-14			380	372	370	320	288	275	250	215	200
650	380	11-28-14			380	373		310	288	270	250	215	200
668	360	4-28-15			362	360		300	285	265		220	200
738	340	4-14-16				340	335		285	265		230	205
761	380	6-11-16				380		320	300	275	250	220	210
965	320	1- 6-18						320	293		250	230	205
966	365	9-21-17						330	292	272	250	235	200
1105	255	3- 2-20								270		250	220
Rock Pressure Totals			1468	1415	2914	2839	973	3375	3679	3936	1669	3298	3160
Number of Readings			4	4	8	8	3	11	13	15	7	15	16
Average Rock Pressure			367	354	364	355	324	307	283	262	238	220	198

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—E

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1 314	10- 7-09	21	5	10	23			5	3	4	1	4
2 626	11-17-09	57	77	33	79	16	24	14	14	12	24	30
3 399	1-15-10	56	171	182	174	39	42	28	20	31	14	27
787	10-25-10	37	54	47	41	1	1	6	6	8	3	5
787	1- 9-11	82	25	19	38	2	1	1	1	10	1	3
3 214	7- 9-11	35	21	33	76	22	40	28	30	23	5	11
4 152	10-21-11	69	33		3	28	24	18	14	20	18	18
1 117	5-23-14		12	53	48	33	24	17	11	10	16	13
2 694	2-24-15			7	3	56	55	57	51	31	59	45	
1 831	9-30-14			12	1	28	38	33	30	21	26	39
3 108	11-28-14			14	2	36	42	33	30	19	34	27
3 062	4-28-15			39	2	53	52	43	30	31	19	29
2 797	4-14-16				3	46	51	40	31	30	25	25	
3 337	6-11-16				2	52	40	24	22	17	34	25
1 554	1- 6-18						29	21	18	14	10	11
3 422	9-21-17						74	29	24	24	24	18
1 475	3- 2-20								8	30	31	32
Production		357	398	449	495	412	537	397	343	335	344	362
ulative Production		357	755	1204	1699	2111	2648	3045	3388	3723	4067	4429

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—F

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
18		2-18-06	388		375	370	340	323			275	250	205
19	500	3- 8-06	(370)		366	363	353	314	280	270	(271)	250	210
20	520	5-16-06	391	390	(380)	384		339	313	295	285	240	235
21	430	4- 3-06	395		378	360		321	293	274	270	250	210
23	500	8-23-05	(374)	(380)	380	378		333	310	290	283	265	230
24	520	11- 3-05	(370)		370	363		314	310	263	275	D.O.	215
27	485	11-22-06	398	383	(383)	(384)		302	305	285	277	240	195
35	505	1-27-07	380	(362)	(310)	366		300	307	282	265	260	240
37	505	3- 9-07	(370)		374	367		318	300	280	271	250	210
116	500	1-29-07	390		376	360		321	295	270	(271)	250	205
117	500	7- 5-07	385		373	360	337	320	(250)	(268)	271	250	205
236	405	2-25-10	397	(400)	(396)	(395)	365	(300)	308	300	285	255	220
254	402	3-30-10	384	(380)	379	(380)		328	310	298	279	255	200
507	425	5-15-13		412	395	(395)		306	288	280	263	(215)	195
601	365	8- 5-14			374	(378)		316	307	282	271	250	210
616	380	8-13-15			373	360	330	320	290	(268)	(270)	250	210
656	395	1- 1-15			393	(393)	365	341	308	300	291	260	230
963	345	11- 1-17						316	300	278		260	230
1176	255	4-29-22											215
1184	270	12- 4-21											220
1188	260	2-23-22											210
1219	250	4-16-21									266	225	205
1319	240	5-11-23											
1336	248	7- 7-23											
Rock Pressure Totals			3508	1185	4906	4031	2090	5432	4824	4247	4127	4260	4705
Number of Readings			9	3	13	11	6	17	16	15	15	17	22
Average Rock Pressure			390	395	377	366	348	320	302	283	(275)	251	214

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—F

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
7 182	2-18-06	113	126	109	84	102	99	79	109	26	83	86
10 526	3- 8-06	77	111	75	51	63	54	73	98	28	97	143
3 856	5-16-06	75	32	10	25	79	50	59	42	33	53	31
9 114	4- 3-06	128	112	100	83	94	104	86	104	20	108	121
8 326	8-23-05	35	21	7	10	25	16	26	25	17	33	21
11 000	11- 3-05	3	2	1	1	7	3	14	12	1	9	18
2 223	11-22-06	27	5	3	4	38	20	26	22	22	38	20
3 925	1-27-07	29	12	31	6	8	1	5	6	5	13	14
7 190	3- 9-07	86	72	34	61	63	55	72	44	30	66	51
7 473	1-29-07	66	63	66	44	38	41	31	34	6	29	34
5 000	7- 5-07	20	17	24	17	9	16	19	22	5	25	22
4 553	2-25-10	78	17	6	39	99	35	67	65	57	103	68
5 810	3-30-10	141	21	16	30	182	98	89	99	85	169	113
2 797	5-15-13		38	4	32	105	33	41	36	32	36	29
2 555	8- 5-14			6	11	56	40	46	38	26	46	49
4 152	8-13-15			28	54	66	52	58	63	12	62	58
5 359	1- 1-15			5	26	101	57	62	67	58	104	73
842	11- 1-17					5	26	25	20	20	36	33
2 675	4-29-22										28	65
2 200	12- 4-21										79	49
2 900	2-23-22										68	57
1 200	4-16-21									9	33	29
744	5-11-23											7
750	7- 7-23											10
Production		878	649	525	578	1140	800	878	906	492	1318	1201
ative Production		878	1527	2052	2630	3770	4570	5448	6354	6846	8164	9365

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—G

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
7	550	6-30-03	410	395	395	(393)	360	323	323	290	288	(240)	*235	22
10	505	11-22-04	400			390		340	332			280	*240	23
16	500	1905			385	387	(392)	348	336	305	291	275	248	22
17		1-21-06	407	390	383	395			335		284	265	*235	21
22	500	5-24-06	(400)	400	383	386		346	325	305	296	265	240	23
36		2-11-07	410	390	395	401		350	338	300	292	270	240	19
51	500	12-12-08	400	390	395	393	385	343	331	300	294	270	235	21
Rock Pressure Totals			2027	1965	2336	2352	745	2050	2320	1500	1745	1625	1673	150
Number of Readings			5	5	6	6	2	6	7	5	6	6	7	
Average Rock Pressure			405	393	(389)	(392)	(373)	342	(331)	300	(291)	271	239	21

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—G

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
7	3 400	6-30-03	28	15	3	14	50	39	21	30	16	5	9
10	8 638	11-22-04	110	69	425	62	204	176	85	108	114	164	52
16	4 048	1905	210	128		7	31	13	9	17	6	18	13
17	3 300	1-21-06	29	16	2	21	127		20	16	27	67	56
22	8 428	5-24-06	68	38	55	38	116	83	73	73	79	116	70
36	2 650	2-11-07	17	11	2	17	52	36	22	21	17	17	18
51	3 607	12-12-08	29	16	3	27	59	51	35	42	23	50	17
tal Production			491	293	490	186	639	398	265	307	282	437	235
mulative Production			491	784	1274	1460	2099	2497	2762	3069	3351	3788	4023

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—H

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
459	480	1-17-13	479	430	395	355		305		280	(280)	240	210	20
460	500	3-24-13	(500)	460	382	(337)		340				275	175	18
533	455	7-22-13	455		360	343	312			285	278	240	210	
559	485	10-10-13	485	455	383	335			(270)	(255)		270	190	20
568	410	12-5-13			400	385	385	348	315			285	250	23
569	410	9-24-14			390	385	367	341	315	310		268	235	23
570	470	12-1-13			390	370	345	330	317	300		265	240	23
583	460	3-20-14			357	310		265	(260)	(240)		250	155	17
596	450	2-7-14			486	430		360	340	322	(260)	310	250	22
614	420	6-9-14			481	405	400	398	378	340	335	300	290	26
690	340	10-14-15				(300)		(270)				(275)	195	21
745	495	1-17-16				497		445	370		(275)	(395)	325	31
760	480	5-2-16				386			300	280	(300)	260	220	21
805	375	7-15-16				373		325		280	(283)	245	200	21
819	435	10-26-16				435	405	405	381	350	342	310	290	22
1098		5-28-20								(394)	(400)		225	22
1198	320	11-1-20								320		275	255	21
1324	285	8-23-23												22
1330	290	9-8-23												22
1333	255	6-22-23												20
1338	270	7-18-23												20
1346	290	12-19-23												20
Rock Pressure Totals			1419	1345	4024	5009	2214	3862	2716	3067	955	3793	3915	48
Number of Readings			3	3	10	13	6	11	8	10	3	14	17	
Average Rock Pressure			473	448	402	385	369	351	340	307	318	271	230	2

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—H

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
69	4 452	1-17-13	95	76	83	44	42	44	34	24	10	21	17
60	4 552	3-24-13		41	39	51	28	27	30	22	65	65	105
33	3 161	7-22-13	91	73	93	48	23	40	35	17	28	54	46
59	5 252	10-10-13	19	81	124	54	29	41	41	24	69	80	134
68	992	12-5-13		153	85	67	59	28	61	76	124	183	75
69	1 117	9-24-14		7	129	67	50	35	47	102	119	166	119
70	2 702	12-1-13		77	105	73	33	29	59	109	120	246	213
83	5 252	3-20-14		139	151	86	32	32	10	18	48	98	176
86	840	2-7-14		14	28	66	59	44	49	40	45	66	104
84	1 989	6-9-14			151	223	188	292	194	216	81	93	97
80	368	10-14-15			17	35	13	16	29	22	37	54	98
76	970	1-17-16				25	36	42	147	39	116	101	154
78	1 225	5-2-16				3	22	27	28	19	15	28	22
75	492	7-15-16				3	32	45	31	21	17	28	28
79	550	10-26-16				4	72	47	36	45	44	48	46
88	550	5-28-20										30	67
98	1 400	11-1-20									170	108	62
94	524	8-23-23											23
93	326	9-8-23											6
95	1 947	6-22-23											118
91	789	7-18-23											15
96	1 300	12-19-23											
Annual Production			205	661	1005	849	718	789	831	794	1108	1469	1725
Cumulative Production			205	866	1871	2720	3438	4227	5058	5852	6960	8429	10154

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—1

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
169	485	8-11-10			393	373		315	265			*285	285	3
201	490	11- 9-10	403		364	353			265	250		255	235	2
203	490	11-16-10			(278)	(263)			260	245		*200	172	1
281	420	2-19-11	(340)		(300)	(286)			262	250		*185	160	1
445	410	Big Lime	(355)		(256)	(232)						155	135	1
608	320	5- 5-14		(320)		325		265	235	220		230	185	1
884	240	3- 2-15					(263)	(110)				150	140	1
891	400	5-28-17					(423)			250		225	205	2
1185	200	4-28-23												1
1299	225	2- 1-23												1
		Injun &	Keener											
Rock Pressure Totals			403		757	1051		580	1287	1215		1685	1517	17
Number of Readings			1		2	3		2	5	5		8	8	
Average Rock Pressure			403		379	350		290	257	243		211	190	1

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—I

ell	Initial Open Flow	Date Com-pleted	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
0	2 272	8-11-10	250	199	163	143	497	418	390	337	356	396	135
1	1 225	11- 9-10	71	78	63	54	139	166	147	93	50	110	95
3	2 251	11-16-10	103	44	34	38	161	180	180	114	121	58	59
1	2 514	2-19-11	81	74	45	46	163	179	172	102	109	115	82
5	654	Big Lime	42	23	9	2	98	109	80	48	55	67	50
8	431	5- 5-14		7	46	31	53	71	72	50	57	58	43
4	2 166	3- 2-15					23	76	61	49	83	146	122
1	1 117	5-28-17					57	122	140	130	130	162	128
5	918	4-28-23											59
9	1 494	2- 1-23											151
		Injun & Keener											
l Production			547	425	360	314	1191	1321	1242	923	961	1112	924
ulative Production			547	972	1332	1646	2837	4158	5400	6323	7284	8396	9320

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	192
844	500	11-26-16				(500)		455	425	365	350	300	26
955	495	7-25-17					523	480	440	368	338	290	25
956	525						518	484	439	385	353	320	28
957	510	10- 6-17						480	450	395	377	340	30
958	510	12-20-17						480	435	380	358	300	27
984	510	9-12-17					518	480	440	380	355	300	30
994	500	2-27-18						480	440	395	370	330	30
1007	510	10-19-17						481	431	378	338	285	25
1008	500	1- 7-18						480	450	398	382	330	30
1009	510	12-21-17						486	450	390	370	310	28
1015	510	11-28-17						490	455	395	382	320	29
1016	490	3-27-18						482	438	398	363	230	29
1132	405	5-22-20								417		320	28
1161	395	10-30-20								395	378	333	30
		(Inj. & Keener											
1162	340	(1- 5-21									343	295	28
1163	395	(3- 3-21									363	315	28
		(Inj. & Keener											
Rock Pressure Totals							1559	5758	5923	5439	5420	5018	45
Number of Readings							3	12	12	14	15	16	
Average Rock Pressure							520	480	441	389	361	314	2

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—J

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
944	9 644	11-26-16					124	44	37	48	29	40	38
955	6 358	7-25-17					64	86	59	80	82	88	74
956	3 706						39	74	69	103	66	94	109
957	2 357	10- 6-17					73	51	80	119	78	101	128
958	4 152	12-20-17					10	94	67	89	62	91	98
984	3 270	9-12-17					37	61	64	94	57	85	99
994	2 500	2-27-18						30	72	115	78	93	108
1002	5 857	10-19-17					76	104	48	83	80	100	84
1008	2 626	1- 7-18						73	77	92	65	97	125
1009	4 553	12-21-17					3	74	72	105	69	94	122
1015	7 230	11-28-17					11	23	56	77	53	76	85
1016	2 356	3-27-18						26	49	83	65	128	96
1032	2 166	5-22-20								24	189	163	139
1061	1 053	10-30-20								19	188	216	135
1062	K. 525	1- 5-21									106	114	64
	I. 722												
	Injun &	Keener											
1063	790	3- 3-21									91	115	72
	Injun &	Keener											
Annual Production							437	740	750	1131	1358	1695	1576
Cumulative Production							437	1177	1927	3058	4416	6111	7687

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—K

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
5	500	1901	462	442	440	439		382	367	330	316	275	270
30	500		474	(457)	(450)	439	(380)	381	345	325	313	275	255
50	500	10- 5-08	(437)	440	439	425	(349)	345	331	300	295	270	242
200	475	11-19-10	445	442	440	430		365	346	325	317	282	257
245	540		464		466	435		380	371	340	323	285	270
260	480	4- 1-11	475	475	470	450		(360)	360	325	325	292	253
490	430	5-27-13		465	450	430	401	380	365	345	320	280	255
491	405	4-30-13 Keener		460	442	420	391	380	365	340	320	(240)	220
492	435	4-14-13	(460)	(460)	(450)	(425)	(410)	(386)	(363)	(341)	(325)	(285)	270
493	430	4-14-13	458	453	445	435		370	345	337	312	292	230
574	450	2- 2-14		470	445	420	390	375	360	345	318	290	265
1322	270	6-11-23											
1334	250	8- 3-23											
1339	287	10-26-23											
1340	275	9- 6-23											
Rock Pressure Totals			2778	3647	4037	4321	1182	3358	3555	3312	3159	2541	2787
Number of Readings			6	8	9	10	3	9	10	10	10	9	11
Average Rock Pressure			463	456	449	432	(394)	373	356	331	(316)	282	253

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—K

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
5	5 500	1901	8	4	2	16	86	51	36	46	27	53	47
30	7 708		24			23	40	54	122	110	73	153	126
50	4 553	10- 5-08	30	24	11	41	99	100	46	61	56	95	86
200	2 626	11-19-10	36	24	10	31	108	102	57	63	48	99	77
265			46	18	3	27	88	66	37	58	41	58	73
280	5 252	4- 1-11	74	40	11	53	173	126	92	99	114	153	76
490	1 416	5-27-13		50	62	44	50	20	15	24	10	11	8
491	681	4-30-13		48	66	75	53	39	20	33	28	27	37
		Keener											
492	1 577	4-14-13		98	127	125	94	69	43	68	73	91	109
493	681	4-14-13	4	31	1	3	83	45	32	32	41	58	49
524	7 417	2- 2-14		142	185	199	160	94	77	120	131	171	269
522	1 770	6-11-23											17
534	1 938	8- 3-23											20
539	339	10-26-23											13
540	994	9- 6-23											17
al Production			222	479	478	637	1034	766	577	714	642	949	1024
ulative Production			222	701	1179	1816	2850	3616	4193	4907	5549	6498	7522

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	H
9	505	8-17-04	(425)	(425)	425	395		330	320	295	268	245	220	
49	480	5-19-10	485	455	430	385		375	345	325	300	275	237	2
468	415	3- 6-13	(430)	430	421	410		340	320	300	282	248	218	2
474	490	6- 6-13		460	420	380		355	345	325	293	263	237	2
475	450	8- 1-13		460	430	385		355	340	325	292	270	243	2
558	460	10-18-13		460	432	395		355	345	325	295	272	247	2
567	425	11-24-13		475	445	410	385	370	362	345	315	290	265	2
575	475	1-31-14			445	420	397	390	375	350	328	300	277	2
576	445	12- 1-15				420		393	385	360	335	300	282	2
1111	325	11-21-19									295	253	225	2
1282	400	1- 5-23												3
1306	260	1-23-23												2
Rock Pressure Totals			485	2740	3448	3600	782	3263	3137	2950	3003	2716	2451	2
Number of Readings			1	6	8	9	2	9	9	9	10	10	10	
Average Rock Pressure			485	457	431	400	(391)	363	349	328	300	272	(245)	2

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—L

Id	Initial Open Flow	Date Com-pleted	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
9	11 196	8-17-04	179	59	36	55	204	82	92	114	102	172	127
0	3 520	5-19-10	106	101	106	119	77	32	26	41	46	125	100
1	2 753	3- 6-13	19	34	12	35	49	34	51	80	66	70	89
4	6 923	6- 6-13		122	206	152	108	40	72	88	99	123	188
5	3 449	8- 1-13		114	144	182	135	68	58	90	106	137	215
6	3 423	10-18-13		180	217	220	160	101	74	109	128	167	259
7	3 621	11-24-13		145	184	172	117	87	79	93	115	151	195
5	2 144	1-31-14		78	173	183	145	77	89	124	124	164	262
6	1 244	12- 1-15			33	205	148	98	99	114	124	168	278
1	685	12-21-19								22	19	29	25
2	895	1- 5-23											120
6	1 770	1-23-23											47
l Production			304	833	1111	1323	1143	619	640	875	929	1306	1905
ulative Production			304	1137	2248	3571	4714	5333	5973	6848	7777	9083	10988

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN & SQUAW AREA—M

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
1233	505	7-29-21	Inj.	& Squaw							505	365	310	28
1234	480	8-11-21	Inj.	& Squaw							480	340	275	26
1235	440	10-15-21	Inj.								440	395	340	30
1236	490	10-1-21	Squaw								490	357	295	27
1237	480	12-22-21	Squaw										355	33
1238	465	1-5-22	Inj.	& Squaw									350	33
1280	410	10-8-22											275	31
1281	410	4-9-23	Inj.	& Squaw										33
Rock Pressure Totals											1915	1457	2200	243
Number of Readings											4	4	7	
Average Rock Pressure											479	364	314	30

ANNUAL PRODUCTION

(Millions Cubic Feet)

IELD—CLENDENIN SAND—INJUN & SQUAW AREA—M

	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	3 480	7-29-21											
	1 900	8-11-21									27	135	143
	284	10-15-21									38	146	104
	4 553	10- 1-21									28	114	79
	1 675	12-22-21									33	120	135
	798	1- 5-22										111	107
	1 186	10- 8-22										126	107
	1 380	4- 9-23										13	76
													43
Production											126	765	794
lative Production											126	891	1685

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—MM

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
859	510	1-15-17					525	500	485	480	470	*440	420	39
885	510	4-10-17					510	505	490	490	480	*460	450	42
		Injun and Big Lime												
1075	500	10-31-19							(500)	(528)	(531)		430	41
1328	430	12-7-23												40
Rock Pressure Totals							1035	1005	975	970	950	900	1300	162
Number of Readings							2	2	2	2	2	2	3	
Average Rock Pressure							518	503	488	485	475	450	433	40

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

ELD—CLENDENIN SAND—INJUN AREA—MM

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
2 500	1-15-17					103	80	109	84	65	96	165
700	4-10-17					51	57	75	62	49	58	107
	Injun & Big Lime											
361	10-31-19										13	54
560	12- 7-23											
Production						154	137	184	146	114	167	326
tive Production						154	291	475	621	735	902	1228

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—N

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
155	525	8-15-10	520	520	(505)	505		430	410	395	385	335	315	290
172	490	10- 5-10	525	(505)	505	500		390	345	337	(370)	300	285	255
217	510	11-15-09	(508)	(485)	460	453	415	389	372	350	258	270	275	238
218	545	10-18-09	530	525	515	515		450	420	415	390	355	330	295
238		12- 4-09	518	(495)	493	478		400	375	340	320	285	258	205
261	400	2-18-11	525	525	515	(515)		(440)	440	420	405	367	345	310
262	520	3-21-11	530	525	515	505		430	410	395	380	(305)	285	265
557	445	10-31-13		500	492	475	450	(394)	400	390	342	340	307	282
578	490	2-28-14			520	493	460	445	425	415	395	355	330	300
638	500	11- 8-14			488	482	450	407	390	350	335	310	260	295
657	485	11-24-14			498	495	448	430	415	400	390	320	300	265
659	495	1-21-15			520	515		(392)	390	365	359	325	275	245
669	495	3-23-15			(499)	493		414	390	345	327	305	275	252
672	500	8-14-15				513		437	417	390	375	335	300	300
673	500	5-27-15												
		Inj & Kenner			(517)	515		427	410	360	(360)	315	275	300
747	480	4- 6-16					450	440	410	380	368	340	320	300
756	525	3- 7-16				(524)	514	484	482		435	405	375	380
1042	425	3-23-19							435	400	370	320	300	295
1058	430	7- 7-19							430	425	390	360	340	310
1212	375	6- 1-23												315
1308	305	3-19-23												160
		Salt												
1309	360	3- 4-23												270
1326	275	10-14-23												240
1352	385	11- 5-23												270
Rock Pressure Totals			2630	2595	5521	6937	3187	5973	7766	6872	6224	5942	5750	6733
Number of Readings			5	5	11	14	7	14	19	18	17	18	19	24
Average Rock Pressure			526	519	502	496	(455)	427	409	382	(366)	330	303	280

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—N

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
3 547	8-15-10	12	15	9	7	171	94	110	90	67	86	133
4 038	10- 5-10	23	11	10	17	161	116	96	67	45	101	88
431	11-15-09			2	8	13	79	17	16	18	17	9
1 800	10-18-09	12	5	3	23	95	44	48	37	28	44	41
1 389	12- 4-09			6	19	130	62	58	67	63	88	41
1 784	2-18-11	11	6	4		154	72	63	47	41	52	76
4 917	3-21-11	15	7	7	13	137	69	83	74	51	89	101
188	10-31-13		36	39	37	40	18	17	24	20	26	35
1 724	2-28-14		62	176	172	144	72	59	61	61	100	132
740	11- 8-14			3	4	86	65	31	53	49	64	40
2 616	11-24-14			6	26	148	82	87	95	60	104	131
1 577	1-21-15			6	11	140	87	82	50	45	56	70
451	3-23-15				12	78	45	28	39	35	53	19
2 382	8-14-15				12	13	72	86	89	77	104	60
1 952	5-27-15 (Inj & Keener)				21	96	55	43	64	55	71	49
550	4- 6-16					91	65	50	56	48	70	37
554	3- 7-16					28	50	50	67	45	82	50
1 400	3-23-19							28	49	46	83	95
1 119	7- 7-19							5	19	8	20	25
513	6- 1-23											19
302	3-19-23 (Salt)											7
1 187	3- 4-23											77
116	10-14-23											2
1 185	11- 5-23											
tal Production		73	142	271	382	1725	1147	1041	1064	862	1310	1337
mulative Production		73	215	486	868	2593	3740	4781	5845	6707	8017	9354

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—O (Sheet No. 1)

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	R
6	380	3-30-03		(407)	414	397		307	300	277		227	190	
32	500	1-11-06	(410)	420	418	404		310	304	292	266	(260)	205	
40	420K	5- 4-07												
	5001	9-27-12	460	(405)	420	403		308	301	285		230	192	
114	525	10-16-12		405	414	399	330	308	307	272		224	185	
115	525	1909	(404)	(390)	393	375	335	308	300	280		222	195	
154	490	11-27-11	395	(398)	(395)	400	366	(310)	317	297		230	220	
164	475	12-30-10		(405)	408	398		308	293	273		215	180	
202	500	11- 1-10	405	(408)	419	405	365	303	298	278	237	230	203	
227	510	12-14-09	427	(426)	(424)	415	380	(315)	304	285	250	230	205	
231	480	2-15-10	(425)		(422)	396		(305)	306	273		210	180	
233	490	2-28-10			386		350	(308)	309	275	249	221	187	
335	460	7-15-11	402	(405)	425	400	355	304	300	285		222	200	
604	450	8-11-14			440	434	405	323	310	290	248	185	156	D
612	420	8-23-14			427	399	327	(306)	308	273		210	180	
637	445	10-15-14			435	(429)		333	(338)	290	260	(255)	215	
665	440				437	419	404	326	313		252	224	190	
676	415	6- 6-15			420	400		313	304	273		220	182	
693	430	8-17-15			(428)	417	365	326	310	280	252	222	200	
716	425	9-26-15			430	395	335	(310)	309	277		221	190	
721	425	11-15-15				403	356	318	310	285	240	180	200	
725	440	1- 7-16				420	358	316	319	275	257	225	197	
807	425	7-28-16				419		310	300		257	246	205	
808	420	1-10-17					385	333	325	297	255	(255)	215	
809	385	10-26-16				385	345	325	304	282	250	230	195	
856	375	12- 4-16					(309)	(300)	300	273		212	180	
857	385	1-20-17					360	312	308	242		220	182	
858	300	12-20-16					(300)	(286)	(251)	247	(208)	(160)	180	
898	460	5- 7-17						311	294	280		220	205	
951	362	6-21-17					354	300	292	273		225	185	
983	345	8- 9-17					345		301	273		220	183	
1006	337	10- 3-17					337	(300)	301	278		227	188	
1109	300	4-13-20								295		230	205	
1110	270	2-27-20								270		230	175	
1242	260	2- 7-22											195	

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—O (Sheet No. 1)

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
8 618	3-30-03	151	38	12	56	74	52	65	58	51	81	45
11 145	1-11-06	65	37	70	79	146	150	80	98	100	158	126
8 495	9-27-12	136	32	16	49	48	18	18	39	46	53	32
9 293	10-16-12	235	54	27	88	86	103	87	41	48	64	44
6 000	1909	23	19	30	50	69	49	64	34	42	36	30
3 297	11-27-11	86	10	3	29	59	51	37	37	36	34	31
9 293	12-30-10	218	55	28	84	102	53	50	60	65	76	33
12 500	11-1-10	105	16	9	59	41	44	31	45	40	38	25
4 666	12-14-09	21	29	4		56	51	42	42	24	25	22
12 449	2-15-10	102	32	19	74	53	37	34	30	35	48	34
20 113	2-26-10	468	324	65	590	77	105	58	61	51	55	31
4 152	7-15-11	30		27	30	97	53	42	46	62	20	20
1 770	8-11-14			3	4	77	30	24	19	34	11	14
12 280	8-22-14		37	28	130	72	59	63	78	60	80	54
659	10-15-14			34		40	23	26	28	24	30	25
4 553				146	65	102	47	37	50	46	53	40
1 592	6-6-15			16	26	41	36	26	32	21	32	16
2 602	8-17-15				19	73	35	30	43	26	38	25
11 272	9-26-15			19	124	90	71	53	65	73	70	63
3 611	11-15-15				11	10	6	2	2	1	4	8
5 250	1-7-16				25	78	53	45	32	25	50	16
5 783	7-28-16				10	126	84	69	65	53	55	44
829	1-10-17					35	41	40	50	26	32	23
3 750	10-26-16				9	42	39	27	40	25	31	23
10 982	12-4-16					61	31	39	31	26	39	27
5 857	1-20-17					55	57	41	54	22	26	30
223	12-20-16					(4)						
5 252	5-7-17					12	36	27	34	37	38	17
3 706	6-21-17					14	55	25	34	43	42	28
4 553	8-9-17					23	55	50	46	63	74	45
5 253	10-3-17					19	88	49	57	63	70	43
884	4-13-20								34	43	40	27
3 960	2-27-20								24	27	25	17
1 800	2-7-22										43	43

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—O (Sheet No. 2)

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1247	216	3-20-22											183
1283	215	11-12-22											191
1287	195	12- 9-22											187
1310	190	2-23-23											
1335	215	9-22-23											
1347	210	7-22-23											
Rock Pressure Totals			460	420	6286	8483	7157	6602	8847	8418	3273	6410	7106
Number of Readings			1	1	15	21	20	21	29	30	13	29	37
Average Rock Pressure			460	420	419	404	358	314	305	281	252	221	192

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—O (Sheet No. 2)

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1247	1 770	3-20-22										18	31
1283	4 818	11-12-22										9	44
1287	4 818	12- 9-22										5	31
1310	2 166	2-23-23											26
1335	1 361	9-22-23											19
1347	3 536	7-22-23											8
Annual Production			1640	683	556	1571	1878	1612	1281	1409	1338	1603	1258
Cumulative Production			1640	2323	2879	4450	6328	7940	9221	10630	11968	13571	14829

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—P (Sheet No. 1)

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
1	500	1899	(416)	(447)		416	(298)	(318)	353	300	(306)	260	225	245
2		Abd. 6-1907												
3	500	3- 7-01	(460)	463	455	(449)		365	(377)	330	(350)	(310)	290	270
4	500	1902	431	430	415	414		(320)	353	315	(313)	287	255	235
11	505	5- 5-05	(429)	437	425	415		373	340	315	(321)	285	255	225
12	498	10-11-05	421	415	407	405	380	370	343	320	302	285	245	235
13	480	11-11-05	431	427	415	405		360	350	300	280	262	235	200
15	510	4-15-06	434	(435)	420	411		362	(363)	320	(318)	265	265	235
34	500	12-15-06	428	(410)	419	(419)		369	344	315	(315)	265	260	240
38		3-17-07		(390)	(408)	(421)		365	340	310		262	235	213
47			450	440	436	423		353			302	270	250	212
52	505	1-31-09	441	440	430	422	390	370	350	305	(297)	272	235	225
119	510	3- 2-09	475	460	440	(440)		368	340	320	(310)	280	230	235
120	350	8-28-09	(410)	415	407	384				300	(308)	270	265	232
137	505	3-30-10	440	430	424		333	(370)	350	305	297	275	235	225
153	510	7- 8-10		(395)	(400)	(406)		340	325	300		255	215	210
162	440	7-23-10	432	428	416	412	(350)	360	348	290	(287)	260	235	200
163	470	2- 3-11	432	427	414	410		360	340	285	(287)	260	230	200
214	510	2- 7-09	446	(437)	(449)	439		366		330	326	270	230	215
219	490	11-12-09	456	447	431	425		398	360	325	320	290	210	225
220	410	12-25-09	(490)	(450)	(440)	428		371	350	325	310	(220)	172	180
228	485		481	467	458	453		360	337		297	255	200	190
259	465	2- 4-11	(424)	425	413	405		360	348	300	290	272	235	195
264	500	12-24-10	478	467	452	(445)		383	344	300	270	264	265	197
328	Abd. 7	22-11												
448	370	12-21-12	428	415	(395)	397	375	368	358	310	(310)	280	275	255
581	440	1-12-14		(458)	438	(436)		386	353	300	276	245	230	190
582	420	11-24-13	(410)	(414)	(403)	388	360			315	(310)	280	264	245
589	370	11- 8-13		410	395	397		360	334	315	303	280	245	225
603	470				460	452		363	337		300	215	195	200
624	440	9-21-14		440	389	377		330	310	290		250	225	190
677	420	6-17-15			422	410		359		300	(301)	265	255	227
737	420	12-11-15				425		363		300	(306)	265	245	225
848	400	12- 9-16						357		295	(298)	260	247	222

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—P (Sheet No. 1)

ell o.	Initial Open Flow	Date Com-pleted	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1	2 365	1899	6	6		3	30	3	6	8	4	5	4
2		Abd. 6-1907											
3	4 553	3- 7-01	16	8	5	5	44	23	21	21	7	9	11
4	5 500	1902	26	161	5	6	58	40	26	24	8	8	11
11	6 864	5- 5-05	45	31	10	9	149	91	59	53	21	32	27
12	4 187	10-11-05	46	45	18	14	100	57	48	50	34	66	47
13	7 250	11-11-05	64	19	4	2	81	61	35	23	13	6	7
15	1 525	4-15-06	11	5	11	5	42	26	19	16	7	10	10
34	1 563	12-15-06	26	13	2	11	55	35	21	32	21	27	20
36	7 470	3-17-07	73	7		28	158	129	82	106	112	118	89
47	1 750		45	18	9	47	53	63	53	42	32	51	50
52	4 123	1-31-09	21	15	5	21	80	62	36	31	19	25	19
19	3 800	3- 2-09	15	1	23	4	54	37	28	24	10	16	10
20	4 000	8-28-09	206		6	44	62	79	62	44	35	62	46
27	5 550	3-30-10	38	31	10	24	136	93	69	58	34	53	39
33	1 380	7- 8-10	73	58	2	13	40	31	25	25	29	27	22
42	4 039	7-23-10	25	24	5	21	102	55	30	28	24	18	18
43	3 214	2- 3-11	21	26	5	16	79	44	26	25	15	16	14
44	431	2- 7-09	26	3	8	5	66	54	46	40	23	39	36
49	4 553	11-12-09	14	20	7	15	63	37	25	19	21	20	9
30	480	1-25-09			1	3	17	9	9	6	4	5	4
28			8	17	6	15	68	25	28	19	14	25	36
46	6 357	2- 4-11	85	23	5	7	127	93	45	42	19	24	20
54	14 962	12-24-10	139	63	20	94	313	22	96	147	96	169	118
29		Abd. 7-22-11											
38	1 040	12-21-12	4	10	3	18	49	38	18	15	13	17	12
41	8 868	1-12-14			12	56	216	77	68	116	72	117	81
52	5 783	11-24-13				1	60	77	58	61	38	72	47
56	4 756	11- 8-13		34	29	24	137	90	65	64	66	90	81
53	1 889				3	9	48	18	18	17	9	14	9
54	1 456	9-21-14		12	7	57	43	46	35	28	30	20	25
57	2 251	6-17-15			5	28	78	95	57	50	32	52	51
57	2 133	12-11-15				3	90	58	31	30	38	68	52
58	5 956	12- 9-16					110	97	97	75	43	100	79

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—P (Sheet No. 2)

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
850		5- 7-17						360		295	(296)	265	246
962	365	8-17-17					365	347	333	295		250	220
1017	360	12-20-17						360	348	300	290	262	230
1112	290	6-25-21									290	268	240
1173	340	9-20-20								340	315	290	255
1207	265	7-15-23											
1231	290	9-15-21									290	280	240
1269	290	7-4-22											252
1270	402	7- 9-22											345
1272	250	7-22-22											
1289	245	10-20-22											220
1290	270	11-19-22											258
1300	225	2- 6-23											
1315	285	5-24-23											
1343	225	8- 4-23											
1349	260	9- 1-23											
Rock Pressure Totals			7104	8283	9781	9513	1870	11276	8596	10165	4102	9619	10159
Number of Readings			16	19	23	33	5	31	25	33	14	36	42
Average Rock Pressure			444	436	425	414	(374)	364	344	308	293	267	242

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—P (Sheet No. 2)

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
850	5 572	5-7-17					81	126	104	88	58	107	82
862	1 109	8-17-17					15	40	24	34	40	36	23
867	4 553	12-20-17						85	20	37	20	28	24
1012	1 186	6-25-21									15	55	26
1073	580	9-20-20								7	34	50	39
1087	1 400	7-15-23											7
1251	339	9-15-21									4	25	12
1269	600	7-4-22										10	31
1270	1 243	7-9-23										4	11
1272	735	7-22-22										9	12
1289	1 628	10-20-22										17	66
1290	3 000	11-19-22										8	72
1300	1 069	2-6-23											14
1315	2 236	5-24-23											10
1343	1 938	8-4-23											7
1369	285	9-1-23											10
Annual Production			1033	650	226	608	2864	2016	1490	1505	1114	1730	1550
Cumulative Production			1033	1683	1909	2517	5381	7397	8887	10392	11506	13236	14786

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—Q

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
287	375	9-18-10	422	397	365			340		297	(295)	265	250	230
307	500	1-26-11	393	(317)	355			340		300	(303)	270	249	230
309	450	2-4-11	421	(350)	380			350		310	(312)	270	264	236
311	440	3-6-11	405	(313)	345			325		285	271	250	235	205
348	450	10-7-11	369	(326)	327			310		270	266	230	220	200
352	445	10-17-11	370	(323)	331			305		275	245	(175)	185	215
421	385	4-3-12	376	(354)	335			310		273	265	245	232	207
Rock Pressure Totals			2380	751	2438			2280		2010	1047	1530	1635	1528
Number of Readings			6	2	7			7		7	4	6	7	7
Average Rock Pressure			397	376	(348)			326		287	(262)	255	234	216

ANNUAL PRODUCTION

(Millions Cubic Feet)

ELD—CLENDENIN SAND—INJUN AREA—Q

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
2 500	9-18-10	54	15	14		26	25	31	34	20	38	23
1 420	1-26-11	54	15	23	20	11	18	17	14	10	19	17
3 706	2- 4-11	80	55	68	145	43	99	68	53	40	77	53
1 946	3- 6-11	165	97	46	59	16	24	27	27	11	24	16
1 946	10- 7-11	53	68	49	36	6	20	32	19	18	28	25
1 704	10-17-11	94	15	23	33	25	15	16	11	6	14	7
1 591	4- 3-12		70	27	33	2	12	12	12	6	17	19
roduction		500	335	250	326	129	213	203	170	111	217	160
tive Production		500	835	1085	1411	1540	1753	1956	2126	2237	2454	2614

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD CLENDENIN SAND INJUN AREA R

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
239	410	11- 8-09	460	435	445	445		375		350	350	300	220	200
243		12- 3-09	458	448	465	465		385		360	341	275	250	220
269	420	2-27-11	444	440	425	434	365	343		340	321	275	225	200
292		10-24-10	322	235	167	145	157	225	225	223	227	210	190	185
564	485	11- 3-13		495	480	470	400	428	394	340	331	290	265	228
605	470	8-31-14			463	456	410	415	365	330	320	288	270	232
640	410	10-22-14				474	435	400	355	327	343	295	240	250
		Inj-B L.												
743	425	2- 3-16				435	420	380		320	318	270	235	220
751	475	2-23-16				486	460			350	370	315	300	280
757	460	4- 7-16				478	443	410	395	332	346	300	280	260
997	400	10- 6-17					470	400		355	366	325	305	2
1196	350	5- 3-28												3
1220	340	4- 8-21											269	2
1223	400	8-23-21									400	338	350	2
1313	295	2- 5-28												
1331	225	7- 8-28												
Rock Pressure Totals			1362		943	3222	1758	3193	1509	3077	1428	2721	3399	361
Number of Readings			3		2	7	4	8	4	9	4	9	13	1
Average Rock Pressure			454		472	460	440	399	377	342	357	302	261	238

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—R

ell	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
9	1 360	11- 8-09	52	4	2	2	68	61	48	35	47	63	79
3	1 108	12- 3-09	56	7	3	3	48	45	30	26	26	30	45
9	877	2-27-11	60	1	1	1	9	18	13	7	16	33	23
2	4 917	10-24-10	2	5	13						2	27	38
4	275	11- 3-13			5	17	44	20	23	43	18	43	15
5	2 339	8-31-14			9		210	91	93	143	113	186	150
0	1 243	10-22-14				5	112	154	82	80	33	52	46
		Inj & B.L.											
3	1 861	2- 3-16				42	87	86	78	51	35	66	54
1	1 008	2-23-16				4	85	90	70	54	39	71	82
7	3 706	4- 7-16				6	123	112	92	71	48	98	95
7	800	10- 6-17						54	48	35	32	47	40
6	7 097	5- 3-23											21
0	1 300	4- 8-21										23	51
3	300	8-23-21									1	41	17
3	962	2- 5-23											55
1	2 140	7- 8-23											10
l Production			170	17	33	80	786	731	577	545	410	780	821
elative Production			170	187	220	300	1086	1817	2394	2939	3349	4129	4950

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—S

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
210	(380)	11-21-06	450	448	435	431		355	313	285	243	228	190
237	495	12- 4-09	467	445	441	432		363	309	283	254	240	205
240	465	12-16-09	(457)	420	405	389		(313)	(280)	310	290	275	275
		(10-15-12)											
270	400	4- 7-11		(274)	(187)	(208)	(280)	(234)	(245)	(218)	(265)	(208)	200
402	505	3-16-12				(431)	(430)	(430)	(427)	(413)	(400)	(380)	265
566	450	11-10-13		450	441	429		328	313	275	238	221	190
639	450	10-24-14			438	432	340	348	304	275	238	220	195
660	455	2-17-15			465	457		345	(346)	310	295	265	235
694	415	12- 8-15				426		365		325	303	253	250
695	400	2- 4-16				(400)	(405)		(360)	(325)	(310)	(240)	250
713	440	10- 1-15			440	440		360		322	293	240	255
			Keener & Injun										
845	405	12- 5-16						353	306	277	235	220	192
874	395	4- 2-17					395	372	300	290	252	240	210
875	370	2-20-17					370	362	306	278	243	230	200
881	330	10-28-17						339	304	279	241	220	180
882	330	6- 2-17					350	321	304	275	240	215	200
883	380	4- 4-17					350	353	313	285	244	228	190
1271	285	9-28-22											190
1301	225	12-18-22											205
1312	210	4- 3-23											
Rock Pressure Totals			917	1763	3065	3436	1805	4564	3072	4069	3609	3055	4077
Number of Readings			2	4	7	8	5	13	10	14	14	13	19
Average Rock Pressure			459	441	438	430	361	351	307	291	258	235	215

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—S

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1 947	11-21-06	220	45	18	40	151	110	65	92	60	88	38
4 818	12- 4-09	181	44	12	87	154	101	52	63	46	88	46
1 299	12-16-09		2	1	1	16	9	27	16	21	48	41
3 706	4- 7-11		1	19						4	21	31
2 087	3-16-12										34	77
5 572	11-10-13		14	4	26	79	52	20	26	20	26	13
7 365	10 24-14			11	37	84	50	33	47	40	43	31
2 616	2-17-15			3	7	58	65	27	33	30	37	25
2 753	12- 8-15				3	62	50	38	16	34	40	39
1 040	2- 4-16				2	33	36	29	20	26	32	32
721	10- 1-15	Keener & Inj.			7	47	40	32	22	27	29	29
10 413	12- 5-16				3	102	52	44	49	37	48	31
2 000	4- 2-17					53	45	57	42	30	42	33
3 350	2-20-17					50	44	27	33	20	27	21
8 000	10-28-17					18	56	34	51	32	65	41
2 000	6- 2-17					16	31	26	35	17	34	22
5 597	4- 4-17					103	90	61	90	46	93	49
7 194	9-28-22										26	44
1 770	12-18-22											54
2 166	4- 3-23											25
Production		401	106	68	213	1026	831	572	635	490	821	722
lative Production		401	507	575	788	1814	2645	3217	3852	4342	5163	5885

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN .SAND—INJUN AREA—T Sheet No. 1

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
279	530	6-28-10	526	530	523	518	480	465		390	425	365	360	33
282	525	1-24-10	492	502	503	499			420			375	345	31
296	460	5-22-12	470	460	457	419		410	398	380	425	325	255	32
		8-8-10												
297		8-9-10	498	499	501	503		475		410	329	320	250	30
308	440	2-6-11	536	531	503	483		400	378	340	400	300	295	32
310	400	2-2-11	411	460	466	442	390	400		310	351	295	210	25
362		1-26-11	475	475	451	388					388	332	290	29
378	500	4-19-13	543	543	533	530		450		400	432	375	345	31
386	465	4-3-12	429	403	349	325	330		405		324	295	265	27
399	420	5-8-12	424	379	336	309	Abd	1-23	1919					
471		11-18-12	450	410	359	335	335	345	320	305	424	310	275	27
487	500	10-9-15				515					430	400	390	32
504	440	4-19-13			526	519	510	470	415	385	405	365	360	33
527	445	3-13-13	501	497	496	492		440		400	409	365	350	32
598	480	5-23-14		489	452	386		335	305	285	350	275	205	22
615	465	6-3-14		483	491	490		478	390	350	418	280	320	30
641	508	10-14-14			491	486	425			330	400	300	245	27
642	495	11-16-14				475		440		370	346	235	265	26
701	505	8-20-15				501		475	400	375	427	380	350	30
897	460	3-25-17					511	500			425	415	395	35
904	490	2-26-17					489	471	455	427	418		325	30
932	435	6-7-17					505	525	440	390	418	345	334	32
1045	480	11-28-18							498	395	419	320	272	26
1100	400	8-7-20								412	411	230	190	17
1101	400	4-28-20								424	475	295	250	24
1152	340	1-5-21	Inj.	& Kenner							343	295	275	25
1170	490	7-7-20									500	350	285	24
1172	415	1-20-21									436	265	265	23
1178	395	3-17-21									395	325	265	30
1221	400	3-3-21									400		340	30
1222	450	3-19-21									450	380	290	24
1224	400	6-20-21	Big	Lime)							400	250	195	18
1225	405	9-22-21									415	320	265	24

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—T (Sheet No. 1)

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
999	6-28-10	13	1	3	2	34	47	35	35	15	45	61
100	1-24-10	8	1	2	3	20	13	15	20	26	35	32
201	5-22-12											
	8-8-10	35	....	2	6	12	7	11	8	6	14	16
284	8-9-10	13	1		1	15	15	12	10	8	16	19
1 225	2-6-11	60	1	3	1	45	61	51	50	34	50	47
600	2-2-11					18	33	27	35	16	30	31
1 375	1-26-11			7	13	6	4	9	7	35	74	80
405	4-19-13			5	3	141	133	96	156	55	106	107
1 404	4-3-12	25	10	10	11	9	12	19	14	43	18	27
1 531	5-8-12	56	20	17	24	34	1	Abd.	1-23	19		
1 759	11-18-12	33	13	32	15	18	41	32	40	23	43	44
910	10-9-15				1	42	42	39	43	38	97	97
431	4-19-13					6	19	18	15	14	39	32
1 666	3-13-13		8	6	2	179	200	143	120	117	201	137
431	5-23-14				13	14	17	16	10	7	16	12
500	6-3-14			2	1	2	16	34	26	19	36	25
527	10-14-14			1	1	26	25	31	26	17	24	19
1 054	11-16-14				1	58	53	25	19	13	22	32
2 626	8-20-15				5	61	58	61	51	37	62	72
554	3-25-17					7	55	57	48	35	67	72
393	2-26-17										17	31
1 667	6-7-17							82	85	50	108	91
3 500	11-28-18							6	15	50	81	59
1 488	8-7-20								4	9	32	11
2 000	4-28-20								4	35	56	39
K 525	In) & Keener											
1 722	1-5-21									106	62	39
1 784	7-7-20									10	66	35
500	1-20-21									10	48	24
1 471	3-17-21									26	102	48
400	3-3-21										18	42
1 150	3-19-21									12	111	63
2 400	6-20-21	(Big	Lime)							15	25	21
2 900	9-22-21									14	83	54

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—T Sheet No 2

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
1228	335	5-16-21	(Inj.	& B.	L.)						335	280	240	2
1318	430	6-26-23												
1348	375	11-30-23												
1354	300	9-20-23												
Rock Pressure Totals			3774	3685	3616	4625	2261	5260	4369	6061	4559	9047	9561	10
Number of Readings			8	8	8	10	5	12	11	16	12	28	33	
Average Rock Pressure			472	461	452	463	452	438	397	379	380	323	290	2

ANNUAL PRODUCTION

(Millions Cubic Feet)

LD—CLENDENIN SAND—INJUN AREA—T Sheet No 2

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
200	Inj. & B. L.											
j. 1043	5-16-21									13	45	39
304	6-26-23											7
116	11-30-23											2
075	9-20-23	(Inj.	& B.	L.)	.							1
oduction		243	55	90	103	747	852	819	841	908	1849	1568
ive Production		243	298	388	491	1238	2090	2909	3750	4658	6507	8075

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—INJUN AREA—W

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
123	480	Squaw 7-23-09	370		372	358		285	263	258		243	259	2
284	475	8- 1-13	475		365	341			280			260	259	2
340	480	Squaw 1-26-11	332		370	372	314			276		345	282	2
1248	400											262	253	2
1249												268	259	2
1250												255	248	2
1251		3-14-12										248	244	2
1252		4-13-12										238	233	2
1253		7-17-12	Purchased from Navajo Oil & Gas Co. 12.5								21	276	269	2
1254												303	254	2
1255												265	261	2
1256												246	201	2
1257		2- 9-15										258	253	2
1258		8- 5-15										253	255	2
1259		10-25-16										286	253	2
Rock Pressure Totals					1107	699	314	285	543	534		3681	3783	3
Number of Readings					3	2	1	1	2	2		14	15	
Average Rock Pressure			*430		369	350	314	285	272	267		263	252	

*Estimated.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—INJUN AREA—W

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1 440	7-23-09	222	122	127	109	68	60	38	34	20	15	27
4 771	8- 1-13	66	226	229	131	105	131	97	54	44	36	59
877	1-26-11	93	57	40	27	16	27	18	17	11	8	19
										7	18	35
										5	15	22
										2	12	24
	3-14-12									2	13	22
	4-15-12									1	6	10
	7-17-12	Purchased from Navajo Oil & Gas Co. 12-9-21								3	14	24
										3	13	16
										3	17	34
											21	31
	2- 9-15									5	18	32
	8- 5-15									3	13	28
	10-25-16									4	19	34
Production Only		726	703	719	733	734	584	514	427	211		
Production		1107	1108	1115	1000	923	802	667	532	324	238	417
ative Production		1107	2215	3330	4330	5253	6055	6722	7254	7578	7816	8233

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIEOD—CLENDENIN SAND—WEIR AREA—X

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
		B.L. &	Weir											
442	290	1- 7-13		170	150				99	85		60	51	5
		B.L. &	Weir											
453	325	4- 2-13		170	150		Abandoned 8-9-18							
		B.L. &	Weir											
779	135	9-10-12				140	(160)		85	74		55	45	5
780		9-28-12					Abandoned 8-2-17							
781	118	11-25-12				(305)	Abandoned 8-3-17							
782	145	10-20-15				145			84	69		42	40	4
		2-28-13												
Rock Pressure Totals				340	300	285			268	228		157	136	14
Number of Readings				2	2	2			3	3		3	3	
Average Rock Pressure				170	150	143			89	76		52	45	5

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—WEIR AREA—X

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	B.L. 5,250	B.L. & Weir											
62	W2 323	1- 7-13	68	49	67	31	32	18	33	27	30	45	32
		B.L. & Weir											
63	4 535	4- 2-13	71	54	99	52	34	2	Abandoned 8-9-18				
	B.L. 248	B.L. & Weir											
79	W1 300	9-10-12				35	29	16	31	46	62	72	64
80	1 000	9-28-12				2	Abandoned 8-2-17						
81	067	11-25-12				34	61	Abandoned 8-3-17					
82	248	10-30-16											
	094	2-28-13				12	15	6	12	12	12	12	13
Annual Production			139	103	166	166	171	42	76	85	104	129	109
Cumulative Production			139	242	408	574	745	787	863	948	1052	1181	1290

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—SQUAW AREA—Y

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
400	480	8- 1-12	260		180	(130)	(160)	(152)	115	100	(85)	38	D.O.	Abd
401	530	8-17-12	260		203	150			88	(60)	(79)	• 72	65	65
427	530	10-10-12	260		200		(170)		98	81	(91)			120
428	360	11-30-12			208				Abd.	1-15-18				
443	310	12-24-12	350	(285)	407	Abd.	9-15-15							
750	140	2-23-16	B.L.	Sq.	Weir	140			90	82		• 74	65	60
785	160	1- 6-16				144			85	69		50	44	45
Rock Pressure Totals			780		791	434			476	332		234	174	290
Number of Readings			3		4	3			5	4		4	3	4
Average Rock Pressure			260		198	145			95	83		59	58	73

•Estimated

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—SQUAW AREA—Y

	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
ll	11 712	8- 1-12	78	18	46	31	65	31	21	45	36	30	
	8 862	8-17-12	62	21	25	31	17	15	30	31	16	63	86
	1 420	B.L.	67	30	56	44	20	23	32	31	31	34	134
	10 495	Sq. 10-10-12											
	5 252	11-30-12	151	81	122	72	22	Abd.	1-15-18				
	115	B.L.	5	4	2	Abd.	9-15-15						
	067	Sq. 12-24-12											
	3 216	2-23-16				40	27	20	15	12	8	10	10
	3 200	1- 6-16				12	29	30	42	33	50	55	53
Production			363	154	251	230	180	119	140	152	141	192	283
ulative Production			363	517	768	998	1178	1297	1437	1589	1730	1922	2205

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—CLENDENIN SAND—WEIR AREA—Z

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	R
		Injun												
274	400	10-20-10	475		290			180	140	123		105	85	
472	475	11-19-12	412		220			116	100	105		•65	54	
526	350	3-21-13	343		208	173	145	145	132		99	82	80	
783	190	10-6-12												
		10-31-15				220	215	195	148	128		•122	118	
		B.L.& W'est												
784	282	1-9-13				245		•215	•200	•180		150	•105	
		11-1-15												
832	485	Injun												
		7-20-16						185	115	83		•72	68	
839	480	8-9-16				480		185	150	130		110	105	
864	260	10-27-16				260		250	130	102		73	D.O.	
Rock Pressure Totals			755		510	725		1076	983	851		779	615	
Number of Readings			2		2	3		6	7	7		8	7	
Average Rock Pressure			378		255	242		179	141	122		97	88	

•Estimated

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—CLENDENIN SAND—WEIR AREA—Z

	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
		Injun											
4	1 832	10-20-10	56	183	127	61	31	27	27	15	5	25	19
2	2 818	11-19-12	109	303	110	60	28	19	20	19	22	21	34
6	1 056	3-21-13		22					1	7	1	1	2
5	884	10-6-12											
		10-31-15				30	45	10	20	20	28	35	27
		B.L. & Weir											
0	1 240	1-9-13				56	107	89	113	93	64	28	20
		11-1-15											
		Injun											
2	1 420	7-20-16				5	40	18	19	12	12	12	13
8	1 592	8-9-16				19	39	33	48	41	45	53	43
4	1 050	10-27-16				14	52	46	49	37	33	38	12
l Production			165	508	237	245	342	242	297	244	210	213	170
ulative Production			165	673	910	1155	1497	1739	2036	2280	2490	2703	2873

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—KANAWHA SAND—WEIR AREA—A

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	192
1		3-7-17										30		
2	405	1-12-17					405					30		
3	430	12-30-16					430			Oil				
5	380	4-13-17					380					30		
20	305	11-18-18						305				30		
21		11-8-18										30		
22		11-22-18										30		
23		11-16-18										30		
24		6-15-19										30		
34	45	10-25-19										30		
Rock Pressure Totals							1215	305				270		
Number of Readings							3	1				9		
Average Rock Pressure							405	305				30		

NOTE: These wells are all Cabin Creek Gas Company Wells.

ANNUAL PRODUCTION

(Millions Cubic Feet)

IELD—KANAWHA SAND—WEIR AREA—A

	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	8 277	3- 7-17					117	123	51	34	21	12	9
	12 381	1-12-17					145	53	55	28	21	12	9
	5 572	12-30-16					84	95	8	Oil			
	8 310	4-13-17					106	142	38	28	18	10	7
	2 110	11-18-18							214	70	39	20	15
		11- 8-18							117		104	25	19
	2 100	11-22-18							72	43	57	18	13
	1 186	11-16-18							13	17	19	10	7
	1 225	6-15-19								41	31	15	11
	260	10-25-19									34	15	11
Production							452	413	568	261	344	137	101
lative Production							452	865	1433	1694	2038	2175	2276

OTE: These wells are all Cabin Creek Gas Company Wells.

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—KANAWHA SAND—WEIR AREA—B

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
4	300	2-16-17					300					190	140	
10	450	5- 3-17					450						100	
11	500	10-16-17					500					125	115	
19	305	6- 9-18							305					
Rock Pressure Totals							1250		305			315	355	
Number of Readings							3		1			2	3	
Average Rock Pressure							417		305			158	118	

NOTE: These Wells are all Cabin Creek Gas Company Wells.

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—KANAWHA SAND—WEIR AREA—B

	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
4	789	2 16 17					50	198	118	115	87	220	55
0	970	5 3 17					118	417	113	135	98	25	26
1	5 850	10 16 17					95	486	181	179	115	179	119
0	3 893	6 9 18							257	161	165	70	50
l Production							263	1101	669	590	465	494	250
ulative Production							263	1364	2033	2623	3088	3582	3832

NOTE: These Wells are all Cabin Creek Gas Company Wells.

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—KANAWHA SAND—WEIR AREA—C

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
7	475	5-24-17					475					275	275	1
9		4-8-17												
12	490	7-10-17					490					230	195	1
15	500	6-28-17					500				280	215	145	2
18	345	10-15-17						345		(355)*		305	285	2
Rock Pressure Totals							1465	345			280	1025	900	
Number of Readings							3	1			1	4	4	
Average Rock Pressure							488	345			(280)*	256	225	

*Estimated.

NOTE. These Wells are all Cabin Creek Gas Company Wells.

ANNUAL PRODUCTION

(Millions Cubic Feet)

ELD—KANAWHA SAND—WEIR AREA—C

Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
1 500	5 24 17					47	290	223	144	80		
393	4 8 17									14	10	8
5 572	7 10 17					185	425	255	224	176	82	316
5 800	6 28 17					101	359	221	180	51	286	119
2 700	10 15 17						415	199	112	31	302	162
oduction						333	1489	898	660	352	680	605
ive Production						333	1822	2720	3380	3732	4412	5017

TE: These Wells are all Cabin Creek Gas Company Wells.

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—KANAWHA SAND—WEIR AREA—D

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	19
		Max & Weir												
689	495	9- 8-15				483						60	Oil	
926	460	8-14-17					460	350				60	Oil	
1062		6-23-19											Oil	
1063		9-25-19										60	Oil	
1064		9- 4-19							203	178	Abd.	2- 2-21		
1065		8- 8-19										60	Oil	
1070		7-23-20										60	Oil	
1071		10-16-19							400			60	Oil	
1130		9-14-20										60	Oil	
1134		7-16-20										60	Oil	
1135		9- 6-20										60	Oil	
1136		10-28-20											Oil	
1194		11-23-20									81	60	53	4
1195		1- 8-21										60	Oil	
Rock Pressure Totals							460	350	203	178		660	53	4
Number of Readings							1	1	1	1		11	1	
Average Rock Pressure							460	350	203	178		60	*50	4

*Estimated

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—KANAWHA SAND—WEIR AREA—D

	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
		Max & Weir											
		9 8 15					162	140	98	121	81	42	36
	11 712	8 14 17					27	94	12	96	38	24	17
	903	6 23 19							12	39	36	20	16
	963	9 25 19							6	73	16	8	7
	600	9 4 19								4	Abd.	2 2 21	
	1 592	8 3 19							41	381	12	33	6
	554	7 23 20								27	20	73	10
	1 784	10 16 19							21	323	31	22	13
	1 935	9 14 20								34	133	41	61
	962	7 16 20								114	27	42	12
	1 183	9 6 20								16	54	78	24
	858	10 28 20								12	135	73	62
	2 463	11 23 20								29		12	44
	797	1 8 21									116	59	43
Production							189	234	190	1269	699	527	351
ative Production							189	423	613	1882	2518	3108	3459

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—KANAWHA SAND—WEIR AREA—E

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
913	410	7-23-17					410	351		(155)		120	105
925	465	8-18-17					465	388	284		171	160	125
927	505	6-15-17					505	396	278		196	160	150
928	480	9-15-17					480	356	225	(135)	(115)	150	134
929	460	10-24-17					460					165	140
944		12-14-17						(310)				110	100
945	455	11-5-17					455	383			150	155	145
961	500	11-14-17					500	379	277		159	145	120
1013	405	5-4-18						405	268		195	172	130
1014	310	8-31-18						310	272		151	134	89
1066	122	5-23-21									(123)	(120)	90
Rock Pressure Totals							3275	2968	1604		1022	1471	1328
Number of Readings							7	8	6		6	10	11
Average Rock Pressure							468	371	267		170	147	121

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—KANAWHA SAND—WEIR AREA—E

	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	3 214	7-23-17					79	340	304	220	50	72	55
	25 157	8-18-17					91	172	102	245	65	32	45
	9 200	6-15-17					200	448	302	489	166	81	140
	2 700	9-15-17					215	333	316	373	308	223	142
	4 220	10-24-17					69	224	285	199	194	133	73
	5 800	12-14-17						271	268	190	170	138	97
	2 974	11- 5-17					38	204	245	266	192	168	122
	11 712	11-14-17					150	562	270	435	151	107	55
	2 251	5- 4-18						43	159	128	48	39	37
	6 921	8-31-18						36	248	180	69	56	44
	1 500	5-23-21										28	110
Production							842	2633	2499	2725	1413	1077	920
ulative Production							842	3475	5974	8699	10112	11189	12109

ROCK PRESSURE DATA

(Pounds Per Square Inch Above Atmosphere)

FIELD—KANAWHA SAND—WEIR AREA—

Well No.	Initial Pressure	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
775		3-22-13				(371)		341	(268)	293	249	240	208
946	460	10-4-17					460				422	392	375
960	500	10-30-17					500	391	280		227	202	
969	435	3-8-18							245		315	260	250
970	430	7-22-18						430			310	270	255
971	464	5-3-18						464	205		294	190	180
1147	337	2-12-21									337	266	255
1148	340	1-22-21									339	250	225
1156	325	3-21-21									325	225	187
1157	270	12-2-20								290		229	192
1158	415	11-30-20								408		220	170
1159	386	10-16-20								403		195	175
Rock Pressure Totals							960	1626	730	1394	2818	2939	2472
Number of Readings							2	4	3	4	9	12	11
Average Rock Pressure							480	407	(243)	348	313	245	225

ANNUAL PRODUCTION

(Millions Cubic Feet)

FIELD—KANAWHA SAND—WEIR AREA—F

Well No.	Initial Open Flow	Date Completed	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
		6-19-18											
775	1 581	3-22-13				26	140	86	56	118	7	13	28
946	3 706	10-4-17					26	519	510	603	337	277	338
960	12 449	10-30-17					208	561	447	514	181	106	131
969	2 166	3-8-18						32	276	231	99	70	113
970	1 450	7-22-18						21	189	167	71	52	98
971	2 662	5-3-18						12	113	74	37	22	37
147	1 550	2-12-21									193	228	179
148	3 200	1-22-21									311	381	351
156	1 400	3-21-21									194	237	172
157	2 017	12-2-20								15	175	189	133
158	2 236	11-30-20								22	261	197	140
159	2 302	10-16-20								21	238	215	155
tal Production						26	374	1231	1591	1765	2104	1987	1875
mulative Production						26	400	1631	3222	4987	7091	9078	10953

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UNITED FUEL GAS COMPANY

REPORT SHOWING

General Geologic Description of Natural Gas Properties
Classification of Acreage

and

Estimated Gas Reserve as of December 31, 1923

PART 2

MAPS

RALPH E. DAVIS, Engineer,
Pittsburgh, Pennsylvania.
May 15, 1924

DAVIS EXHIBIT No. 1

MAPS 1-6

TOO

LARGE

FOR

FILMING